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THE UNIVERSITY OF ALBERTA

PSYCHOSOCIAL CORRELATES OF LOCUS OF CONTROL EXPECTANCIES IN FEMALE CHILDREN

by

DIANNE ANDERSON

(C)

A THESIS
SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH
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FACULTY OF GRADUATE STUDIES AND RESEARCH

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ABSTRACT

This study was designed to investigate the relationship between four psychosocial variables and the locus of control expectancy in a sample of 40 female children in middle childhood. The Nowicki-Strickland Internal-External Scale, which is based on Julian B. Rotter's Social Learning Theory, was used to measure the children's belief in the amount of control they are able to exercise over their environment. In order to more accurately assess the relationship between locus of control expectancy and the four psychosocial variables, several variables were controlled through sampling and/or statistical methods. The control variables included the size and density of the family, the socio-economic status of the family, the number of parents, and the child's age; intelligence and birth order.

The psychological variable investigated was the child's cognitive-developmental level. Two developmental instruments, the Psychological Causality Scale and the Subjective Responsibility Scale, based on Jean Piaget's developmental theory, were utilized to measure this variable. The social variable investigated was parental influence. Three dimensions of this variable were measured; that is, child-rearing practices, parental belief system and fathers' occupational self-direction. To measure the parents' child-rearing practices, a structured family interaction task was employed. An adult version of the Nowicki-Strickland Internal-External Scale was utilized to measure the parents' belief system while the fathers' occupational self-direction was investigated via the Index of Occupational Self-Direction. The relationship between each of these four psychosocial variables and the children's control expectancy was analyzed using Pearson's Product-Moment correlation.

The results of the study showed that a stronger relationship existed between the social variable, particularly the mothers' child-rearing practices and the daughters' locus of control, than between the psychological variable and the daughters' control expectancies. Unexpected negative correlations were obtained between the daughters' control expectancies and the fathers' child-rearing practices and between the daughters' control expectancies and the fathers' occupational self-direction. A review of previous research, however, suggested these results were not without precedent.

Because the sample characteristics were restricted, generalizability to other populations was not feasible. However, the results did suggest that control expectancy in young female children has psychosocial correlates which are not attributable to such factors as intelligence, socio-economic status or size and density of the family. The results also indicated the utility of including both parents in locus of control research. The importance of the family as a potential vehicle to cushion the impact of class membership on young children was also noted. Previous speculation by researchers that children in middle childhood are at a developmentally unstable age was also generally confirmed by the results.

Two areas of further research noted were: An investigation to determine the socializing impact of the peer group upon locus of control expectancies in young children; and the need for additional methodological and theoretical research on the concept, locus of control.

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CHAPTER I

INTRODUCTION

I. EXPECTANCY OF CONTROL

Many investigators have concerned themselves with man's ability to control his environment. DeCharms (1968) has even stated that "man's primary motivational propensity is to be effective in producing change in his environment" (p. 269). Smith (1969) also suggests that the desire to be effective or competent, to be capable of exercising control over one's environment, has universal appeal. Although a psychological desire may exist among men to be effective, empirically, societies differ in their ability to control the environment. For example, western man with his technological advantages is probably more efficacious and more in control of his fate than people of less technologically-advanced societies.

Objectively then, some societies and even some individuals within a society have more resources at their command which allow them to more effectively control their environment. Subjectively, however, a person's perception of himself as a causal agent is not a "given;" but rather it is learned from his interaction with the environment, from instructions and from observational learning (Mischel, 1973). Consequently, because individuals bring different expectancies to each situation based on previous learning, their response to the same situational contingency will be different. The source of causal learning, therefore, is based not only on the norms of a culture but also on the information fed back from the environment about one's performance.

Lefcourt (1973) maintains that this expectancy or perception of control plays an important role in sustaining life. Research, particularly with animals (Kobler and Stotland, 1964; Richter, 1959; and Seligman, Maier and Soloman, 1969) supports this claim. Although little research has been carried out in this area with humans (Roth and Bootzin, 1974), Lewis and Goldberg (1969) suggest that an infant's expectations or beliefs that his behavior can affect change in the environment will influence his interaction with his environment. Presumably, if an infant increases his exploration of his surroundings, his perceptual-cognitive development will be aided; thus allowing him the chance to exercise more alternatives.

Other research has demonstrated a strong relationship between expectancy of control and learning. For example the "Coleman Report" (Coleman, Campbell, Hobson, McPartland, Mood, Weinfeld and York, 1966), also known as the American Report on Equality of Educational Opportunity, noted that the critical psychological variable in accounting for poor school performance of disadvantaged children was the students' sense of ineffectiveness and lack of control over their destinies. Student behavior has also been shown to be affected by a change in teacher expectancy, known as the Rosenthal Effect (Rosenthal and Jacobson, 1968). In this situation, if a teacher's expectancy regarding a student's potential is favourably altered, the teacher will begin to reinforce more of the student's behaviors. This results in improved performance on the part of the student because his expectancy of success has increased.

Seeman (1971) hypothesizes that a person who feels that he is in control of events is also much more likely to become involved than a

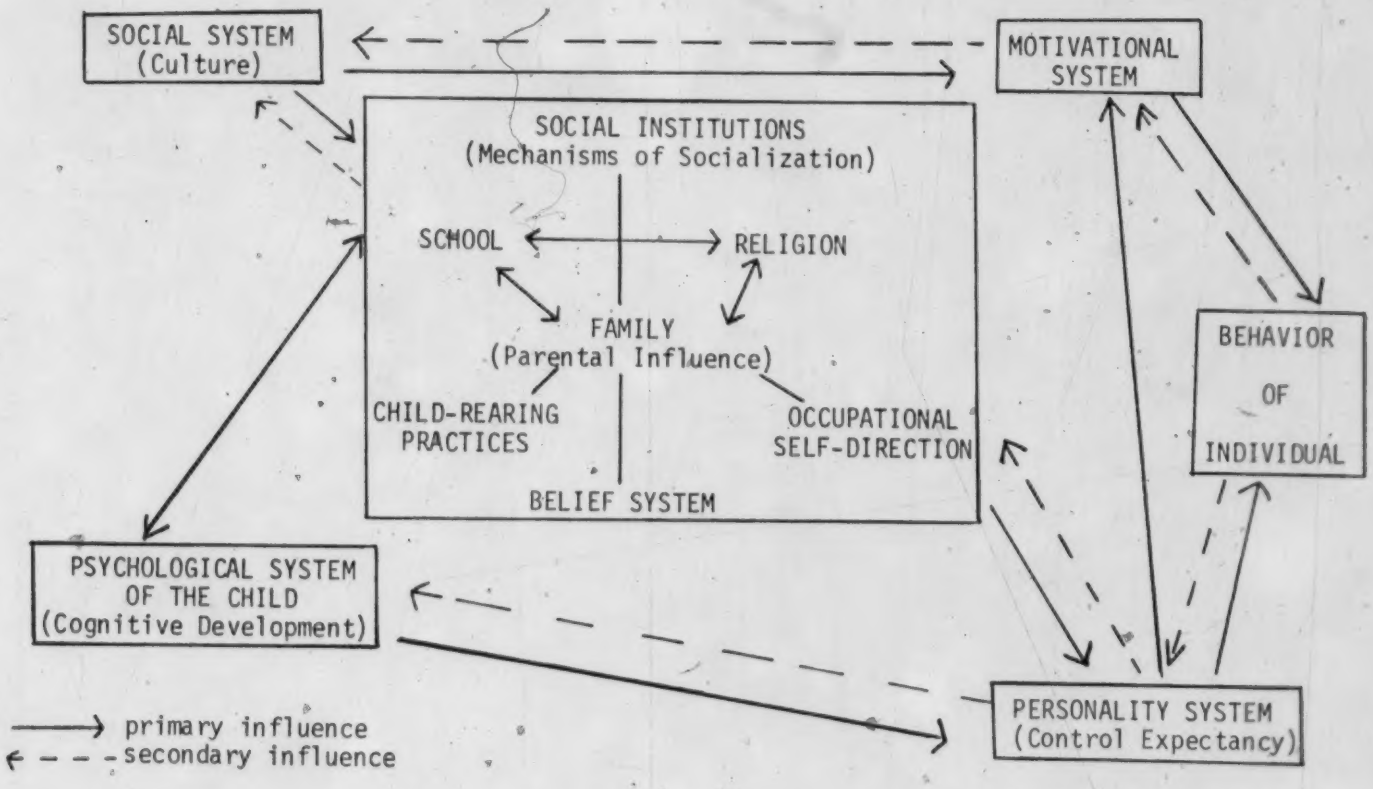
person who feels powerless. Perhaps this explains why the emphasis of much of the current poverty research is focused on the concept of powerlessness, that is, the disparity between aspirations of the poor and their situational limitations which prevent implementation of these aspirations (Gurin, 1970; MacDonald, 1973).

Some researchers (Epstein and Komorita, 1971; Merton, 1949) suggest that a belief that events are controlled by outside forces may serve a useful psychological function for some people by preserving their self-esteem in the face of failure. However, this could be a self-defeating mechanism for the individual's social adjustment in the long-term as it could decrease his potential for "purposive" and "goal-striving" behavior. For most researchers, an expectancy of control, that is, a belief that the locus of control resides in the person as opposed to external or capricious forces is deemed to be the more desirable and healthy personality trait (Rotter, 1954; R.W. White, 1972).

The fact that an expectancy of control is important in changing an individual's interaction with, expectations about and exploration of the environment suggests that a relevant area of study would be the investigation of possible psychosocial correlates of this personality variable in children; thereby gaining some understanding of its development in children. However, because the range and impact of experiences upon the young child are extremely intricate (Hebb, 1974; Smith, 1969), the development of a control expectancy is presumably part of a complex, circular system. In order to clarify some of the interrelated factors in the development of an expectancy of control in young children growing up in our society, the following simple model is presented.

FIGURE 1

PSYCHOSOCIAL MODEL OF EXPECTANCY DEVELOPMENT



The Expectancy Model

The function of this model is to suggest that each culture produces mechanisms of socialization in order to maintain and reinforce itself. Such mechanisms in our society might include the family, the church and the school. These mechanisms of socialization or social institutions lead the individual to expect that certain behaviors will be reinforced or punished in his society; thus producing an expectancy framework for each individual. In this way, an expectancy, as part of the personality system, is directly influenced by a society's social institutions (Cromwell, 1961; Finlayson, 1973; Pareek, 1970). One of the important social institutions through which children internalize their society's norms and value orientations and also learn to perceive the opportunity structure of their society is the family (Epstein and Komorita, 1971; Finlayson, 1973; Goldin, 1969; Hoffman, 1971; Jessor, Graves, Hanson and Graves, 1968; Kagan, 1956). Within the family, it is probably the parents which have the largest impact upon children's expectancies of control. In particular, it might be hypothesized that the parental belief system and child-rearing practices as well as the father's occupational self-direction would play a large role in the development of a control expectancy. In addition, the development of an expectancy of control may also be significantly affected by characteristics of the child's psychological system, such as his cognitive-developmental level.

This model suggests, then, that initially the social system is the main factor determining an individual's behavior, but that in time the social system or culture is maintained by the motivational system

and the expectancy framework of each individual. In this way, one's level of expectancy and degree of motivation are important intervening variables between a culture and the resultant behavior of individuals. That is, these two variables are instrumental not only in determining behavior but also in changing the social system and even in altering the very nature of the social institutions.

II. PURPOSE OF STUDY

Based upon this hypothetical model of expectancy development, this study was designed to investigate the relationship between the control expectancies in female children and four possible psychosocial correlates. The psychological correlate examined was the cognitive-developmental level of the child. The social correlate investigated was one aspect of the family--the parental influence. This was investigated via three variables: parental child-rearing practices; parental beliefs; and the occupational self-direction of the father.

III. LIMITATIONS OF STUDY

Because this study was correlational in nature, any discussion of directional causality between the variable, control expectancy, and the psychosocial variables investigated had to be speculative. The study was limited in that the complex relationship between the motivational system and the expectancy construct (Kagan and Kogan, 1970; MacDonald, 1973; Rotter, 1954; Wolk and DuCette, 1971, 1973) was not considered. Nor was the relationship between the expectancy construct and the other mechanisms of socialization outlined in the Psychosocial Model, that is, the church or school, investigated in this study.

CHAPTER II

RELATED RESEARCH AND LITERATURE

I. LOCUS OF CONTROL EXPECTANCY

Kagan and Kogan (1970) outline four possible classes of expectancies. The expectancy which these authors describe as a "subjective class (dealing) with the individual's anticipation of the products of his own behavior, whether he will succeed or fail at a task" (p. 1348) is the one which will be considered in this study. Because most systematic psychological accounts of behavior include this concept, that is, reference to the anticipation of outcomes or future events (Jessor et al., 1968), the literature abounds with terms to describe similar concepts. These include active versus passive orientation, alienation, anomie, powerlessness, origin-pawn, personal power and perceived locus of control of reinforcement. However, for the purpose of this research, the distinction made by Julian B. Rotter (Rotter, 1954, 1955, 1960, 1967; Rotter, Chance and Phares, 1972) between internal versus external locus of control expectancy will be used.

Theory

Locus of control expectancy is part of a "socially learned cognitive system" according to Rotter (Jessor et al., 1968). The term, "social" is employed to acknowledge the importance society plays in mediating the rewards and punishment received by an individual. "Learning" emphasizes the learned as opposed to the inherited aspects of human behavior while a "cognitive system" is a hypothetical psychological process which Rotter

utilizes to indicate that overt verbal and motor behavior cannot be explained in stimulus-response terms alone. Basically, the term is an attempt to indicate that stimuli received from the environment are in some way processed to extract the information they contain.

As conceptualized by Rotter, this personality variable refers to the degree of control one perceives in regard to the consequences of his behavior. Because Rotter believes that people's perceptions as to the amount of control they possess varies, he dichotomized the variable into internal versus external control expectancy. A person who believes that he has some control over his life is referred to as having an "internal locus of control" while a person who believes that his reinforcements are controlled by external forces (fate, chance, or powerful others) is referred to as having an "external locus of control". Rotter's theory suggests then that whenever a reinforcement is seen as not being contingent upon the individual's behavior, it will have little salience in determining future outcome expectancies. Conversely, when the reinforcement is seen as being internally caused by the individual, it will be highly salient in determining future outcome expectancies. Thus, depending upon one's reinforcement history, a consistent attitude will develop regarding the source of reinforcement, as tending toward either an internal or external locus. The extent to which an individual believes that reinforcements are causally related to his own behavior will result in his interacting differentially with the environment.

Instruments

Individual differences in generalized expectancies of I-E control have been investigated primarily with Rotter's Internal-External Locus of Control Scale (Rotter, 1966; Rotter, Seeman and Liverant, 1962). A number of other researchers (Battle and Rotter, 1963; Bialer, 1961; Crandall, Katkovsky and Crandall, 1965; Cromwell, 1963; Gruen, 1971; Mischel, Zeiss and Zeiss, 1974; Nowicki and Duke, 1973; Nowicki and Strickland, 1973; Shore, Milgram and Malasky, 1971; Stephens and Delys, 1973; Wilson, Duke and Nowicki, 1972) have developed other scales based on Rotter's social learning theory to measure locus of control dimensions in children and adults.

Research Findings

Considerable research has been conducted relating locus of control to several behavioral and personality variables. Because the amount of research is extensive (Throop and MacDonald, 1971), the following review of the literature will attempt to show some of the important findings to date.

Researchers, who have utilized the existing locus of control measures, have found expectancy of control to be related to instrumental behavior in a variety of situations. For example, internals have generally been shown to take a more active role in their environment (Escoffery, 1968; Gore and Rotter, 1963; Phares, Ritchie and Davis, 1968; Strickland, 1965) and to possess more information about their environment (Davis and Phares, 1967; Phares, 1968; Pines and Julian, 1972; Seeman, 1963; Seeman and Evans, 1962; Steger, Simmons and Lavelle, 1973). On the basis of their research, Phares (1968) concludes that "the evidence clearly paints a picture of the internal's greater potential for effectiveness in his

environment" (p. 661).

Strickland (1972) has noted that a belief in internal locus of control appears to be related to a number of cognitive and competence behaviors. For example, an "internal" person has greater perceptual and cognitive awareness (Crandall and Lacey, 1972; Lefcourt, Gronnerud and McDonald, 1973; Lefcourt and Wine, 1969), higher achievement scores (Crandall et al., 1962; Crandall and Lacey, 1972; McGhee and Crandall, 1968; Nowicki and Duke, 1972a, 1972b; Nowicki and Strickland, 1973; Nowicki and Walker, 1973; Solomon, Houlihan, Busse and Parelius, 1971) and even a greater compliance to treatment demands that may mean the difference between life and death (Weaver, 1972; c.f. Strickland, 1972).

Internality has also been found to relate to self-esteem (Epstein and Komorita, 1971), a positive self-concept (Felker and Thomas, 1971) and popularity (Nowicki and Roundtree, 1971). Conversely, externality has been found to relate to several indexes of maladjustment such as depression (Abramowitz, 1969), alienation (Ryckman and Sherman, 1973; Tolor and LeBlanc, 1971) and anxiety (Chance, 1972; Liberty, Burnstein and Moulton, 1966; Powell and Vega, 1972; and Watson, 1967). It has also been shown (Cromwell, Rosenthal, Shakow and Zahn, 1961; Duke and Mullen, 1972; Harrow and Ferrante, 1969; and Palmer, 1971) that psychiatric patients, especially schizophrenics tend to be more external than the "normal" population. DuCette, Wolk and Soucar (1972) do caution, however, that the relationship between maladjustment and locus of control is not a simple one. They hypothesize that the relationship may be mediated by such factors as racial membership. Other researchers have found externality to be related to dogmatism (Clouser and Hjelle, 1970; Sherman, Pelletier and

Ryckman, 1973) as well as to machiavellianism (Miller and Minton, 1969).

Although personality differences reported in the literature have not always been consistent, the above findings have generally been supported. While the results have been less than clearcut, Lefcourt (1966b) and Joe (1971) suggest that the results do support Rotter's contention that perceived control is a generalized expectancy operating across many situations. Furthermore the results indicate that control expectancy is highly useful in predicting a wide variety of social behaviors.

II. REVIEW OF RELATED LITERATURE

While numerous studies have investigated and identified the consequent effects of a locus of control belief on behavior, few have investigated the antecedent conditions which lead to the development of internal or external control attitudes. From a review of the literature, four psychosocial variables were identified as potentially having a strong impact on I-E development in children. A review of the literature related to these variables is presented below.

Psychological System of the Child

As presented in the Psychosocial Model in Chapter I a psychological variable which might affect the development of a control expectancy is the cognitive-developmental level of the child. The following section will present the theoretical considerations and research which has been carried out to date with these two variables.

Cognitive-developmental Level

Although social-learning theory argues that a person's expectancies are determined by experience, a child often is able to exercise little

control over his environment; therefore it is conceivable that other factors may play an important role in determining his locus of control expectancy. Cowan, Langer, Heavenrich and Nathanson (1969), for example, suggest that social learning theory should pay more attention to the child's cognitive-developmental level as a possible moderator variable affecting the impact of socializing agents on the child.

The cognitive-developmental stage theory of Jean Piaget (1930, 1954, 1965) is one which has dealt with the development of a sense of mastery or a concept of causality in young children. According to Piaget's theory, the development of this concept cannot be conceived as simply the internalization of a social norm. Rather it is the consequence of the child's own behavior and experience in society, in play and in other situations to which he has successfully adapted (Smith, 1969). Piaget seems to imply that there is a built in motivational device, which as a result of the child's own ability enables him to continue to explore and investigate his environment and eventually results in the child modifying and adapting his cognitive structures and beliefs. Flavell (1970) more forcefully empathizes the biological-maturational aspect by stating that cognitive changes during childhood ".... are largely inevitable, momentous, directional, uniform, and irreversible" (p. 247).

The relationship between the locus of control concept derived from social learning theory and the concept of causality derived from Piaget's developmental stage theory remains unresolved (Cowan et al., 1969; Lewis and Goldberg, 1969; Minton, 1967). Minton (1967), however, suggests that a theoretical relationship does exist between the two. For example, social learning research has shown that as a young child matures he is more often

able to influence events which occur in his environment. This generally results in an age-related developmental shift, such that the older the child the more internal his locus of control expectancy (Bialer, 1961; Cromwell, 1963; Nowicki and Duke, 1972b; Nowicki and Strickland, 1973; Penk, 1969; Shore et al., 1971). However, this developmental shift may not occur unless the child has first attained a certain developmental level, such that he is able to perceive himself as a causal agent. Berzonsky (1974) and DeCharms (1968) also argue for a theoretical overlap between locus of control expectancy and psychological causality because internals are probably "more advanced than externals in their concepts of life" (Berzonsky, 1974, p. 786).

Research Findings

Researchers who have investigated the locus of control-cognitive developmental relationship have had contradictory results. Berzonsky (1974) found internality to be unrelated to animistic thinking in six- and seven-year-olds. As predicted, Arbuthnot (1973) found internal-external control, which he describes as a non-structural cognitive phenomenon, to be unrelated to moral judgment. Hunt, Hardt and Victor (1968; c.f. Hunt, 1970) have also not found a significant relationship between a subject's control expectancy and his conceptual level. Yet other studies (Adams-Webber, 1969; Bieri, 1955; Johnson, Ackerman, Frank and Fionda, 1968) have found internal subjects, particularly males, to be at a higher level of conceptual development than externals. Therefore, on the basis of these findings it must be concluded that empirical findings do not consistently support the theoretical contention that a locus of control-cognitive developmental relationship exists.

Mechanisms of Socialization

Of the three major social institutions outlined in the Psychosocial Model in Chapter I (that is, family, religion and school), this review of the literature will examine only the relationships which exist between the child's control expectancy and one aspect of the family--parental influence. Specifically, this literature review will examine three parental vairables which theoretical considerations and research results suggest may have a relationship with control expectancy in children. These are the child-rearing practices of the parents, the parental belief system and the fathers' occupational self-direction.

Child-rearing Practices

Theoretically, the type of home environment would appear to be an important factor in fostering the development of a perception that rewards and punishment are contingent on one's behavior. Empirically, it has been shown that parents who are warm, nurturant, approving and accepting are more likely to have a child with an internal orientation than are parents with the opposite personality traits (Chance, 1972; Davis and Phares, 1969; Joe, 1971; Lefcourt, 1972; MacDonald, 1971b; Palmer, 1971; Reimanis, 1971; Solomon et al., 1971). The parent who is protective, positively involved and who disciplines consistently (Chance, 1972; Cromwell, Rosenthal, Shakow and Zahn, 1961; Davis and Phares, 1968; Epstein and Komorita, 1971; Joe, 1971; Lefcourt, 1972; MacDonald, 1971b; Patsula, 1969; Solomon et al., 1971) is also more likely to foster an internal control expectancy in his child than a parent whose relationship with his child is rejecting, critical and punitive. Children whose parents are rejecting may adopt an external orientation as one means of

coping with the anxiety generated in such an environment. In addition an external orientation may serve as "a protective device to defend against these aversive circumstances" (Davis and Phares, 1969).

Tables I and II contain the results of locus of control-child-rearing studies which were significant at the .05 level or beyond. The results for males and females are reported separately.

Parental Belief System

The parental belief system is a second way in which the family may mediate between the child and the outer world. Jessor et al. (1968) maintain that the parents' beliefs inevitably influence the child, either directly through instructions given to the child concerning the nature of behavior-reinforcement sequences or indirectly as the child senses that these beliefs "...are the guiding paradigms of his parents' behavior" (p.86).

Empirically this speculation has most resulted in clear cut findings. Jessor (1964, c.f. Rotter, 1966) and Nowicki and Segal (1974) found the I-E scores of parents and their high-school age children to be significantly related while Davis and Phares (1969), using a college sample found no significant parent-child relationship. These descrepant findings suggest that there may be other variables affecting the impact of parental beliefs upon their children. One possibility is that the belief system of the peer group becomes increasingly influential at the expense of the parental belief system as the child grows older.

Fathers' Occupational Self-Direction

Kohn and Schooler (Kohn, 1963,1969; Kohn and Schooler, 1969, 1973) have suggested that the structural imperatives of a job play a large role in the psychological functioning of men. In terms of psychological effects, they conclude that the most important facet of occupational life

TABLE I

RELATIONSHIP BETWEEN CHILD-REARING PRACTICES AND INTERNALITY-EXTERNALITY IN FEMALES

SOURCE	LOCUS OF CONTROL SCALE	N	SAMPLE CHARACTERISTICS	PARENTS	INSTRUMENTATION	RESULTS	P <
Chance (1972)	IAR[a] (Crandall et al., 1965)	55	White, upper middle class Grades 3 to 7	Mother	MAIT (Winterbottom, 1958) PARI (Schaefer and Bell, 1958)	MAIT I = PARI I =	 n.s. n.s.
Davis and Phares (1969)	I-E Scale (Rotter, 1966)	30	White college students	Both	CRPBI (Schaefer, 1965) MPAS (Pumroy, 1966)	CRPBI I = positive involvement less rejecting behaviour less hostile control consistent discipline less withdrawal of relations MPAS I =	 .05 .05 .05 .01 .05
Katkovsky, Crandall and Good (1967) Study A	IAR (Crandall et al., 1965)	18	White, middle class Grade 1	Mother	PBRS (Baldwin, Kalhorn and Breese, 1949)	PBRS I Total =	 n.s.
Study B	IAR (Crandall et al., 1956)	20	White, middle class College students	Both	PPQ (Katkovsky, et al., 1967) Interview ratings (IR) (Katkovsky et al., 1967)	PRQ I Total = IR I Total = maternal rejection	 n.s. .01
Levenson (1973)	Levenson's I-E Scale (Levenson, 1973)	83	White, middle class College students	Both	PPQ (Devereux, Bronfenbrenner and Rodgers, 1969)	PPQ I = low maternal protectiveness	 .05
MacDonald (1971b)	I-E Scale (Rotter, 1966)	192	White, middle class College students	Both	PPQ (Devereux et al., 1969)	PPQ I = maternal nurturance paternal nurturance maternal achievement pressure E = maternal protectiveness	 .04 .05 .05 .03

[a] The scale yields three scores. Whenever the individual endorses the belief that his own behaviour is responsible for positive outcomes, it is scored I+; whenever the individual assumes responsibility for negative outcomes, it is scored I-; and the sum of these two scores yields an I Total score.

TABLE I (CONTINUED)

SOURCE	LOCUS OF CONTROL SCALE	N	SAMPLE CHARACTERISTICS	PARENTS	INSTRUMENTATION	RESULTS	P <
Nowicki and Segal (1974)	CNS-IE Scale (Nowicki and Strickland, 1973)	54	White, lower class Grade 12	Both	ANS-IE Scale (Nowicki and Duke, 1972a) P-C IRS (Heilbrun, 1964)	ANS-IE Scale I = perceived paternal internality	.01
						perceived maternal internality	.01
						P-C IRS I =	
						paternal affection	.01
						paternal trust	.001
						paternal security	.01
						maternal affection	.05
						maternal encouragement	.01
						maternal trust	.01
						maternal security	.01
Reimanis (1970) Study A	CPT (Battle and Rotter, 1963) ILC (Bialer, 1961; Cromwell, 1963)	54	All classes Grades 1 and 3	Both	Interview with mothers	ILC I = parental positive view of child	.01
						CPT I =	n.s.
Study B	CPT (Battle and Rotter, 1963) ILC (Bialer, 1961; Cromwell, 1963) IAR (Crandall et al., 1965)	101	All classes Grades 3 to 6	Both	Teachers' ratings of family	CPT I =	n.s.
						ILC I =	n.s.
						IAR I+ = poor home environment	.05
Solomon et al., (1971)	IAR (Crandall et al., 1965) ILC (Bialer, 1961; Cromwell, 1963)	34	Negro, lower class Grade 5	Both	Observed interaction	IAR I+ = father's expectancy	.01
						I = father's total verbal participation	.05
Tolor (1967)	I-E Scale (Rotter, 1966)	22	White teachers	Both	MPAS (Pumroy, 1966)	I = parental indulgence	.05

TABLE II

RELATIONSHIP BETWEEN CHILD-REARING PRACTICES AND INTERNALITY-EXTERNALITY IN MALES

SOURCE	LOCUS OF CONTROL SCALE	N	SAMPLE CHARACTERISTICS	PARENTS	INSTRUMENTATION	RESULTS	P<
Chance (1972)	IAR (Crandall et al., 1965)	59	Upper and middle class Grades 3 to 7	Mother	MAIT (Winterbottom, 1958)	MAIT	
						I =	n.s.
					PARI (Schaefer and Bell, 1958)	PARI	
						I =	n.s.
Davis and Phares (1969)	I-E Scale (Rotter, 1966)	30	White college students	Both	CRPBI (Schaefer, 1965)	CRPBI	
						I =	
						consistent discipline	.01
						positive involvement	.05
						less rejecting	.05
						less hostile control	.05
						less withdrawal of relations	.05
					MPAS (Pumroy, 1966)	MPAS	
						I =	n.s.
Epstein and Komorita (1971)	ILC (Bialer, 1961; Cromwell, 1963) CPT (Battle and Rotter, 1963)	120	Negro, lower class Grades 4 to 6	Both	CRPBI (Schaefer, 1965)	CRPBI	
						I = (under success conditions)	
						non-neurotic non-controlling	.05
						consistent discipline	.05
Katkovsky et al., (1967) Study A	IAR (Crandall et al., 1965)	18	White middle class Grade 1	Both	PRQ (Katkovsky et al., 1967)	PRQ	
						I Total =	n.s.
					Interview Ratings (IR) (Katkovsky et al., 1967)	IR	
						I Total = maternal rejection	.01
Study B	IAR (Crandall et al., 1965)	20	White Upper, middle and lower class Grades 2 to 4	Both	PRQ (Katkovsky et al., 1967)	PRQ	
						I Total =	n.s.
					Interview Ratings (IR) (Katkovsky et al., 1967)	IR	
						I Total = maternal rejection	.01
Levenson (1973)	Levenson I-E Scale (Levenson, 1973)	193	White, middle class College students	Both	PPQ (Devereux, Bronfenbrenner and Rodger, 1969)	PPQ	
						I =	
						mother's instrumental companionship	.001

TABLE II (CONTINUED)

SOURCE	LOCUS OF CONTROL SCALE	N	SAMPLE CHARACTERISTICS	PARENTS	INSTRUMENTATION	RESULTS	P <
MacDonald (1971b)	I-E Scale (Rotter, 1966)	192	White, middle class College students	Both	PPQ (Devereux, Bronfenbrenner and Rodger, 1969)	PPQ I = maternal nurturance paternal nurturance maternal predictability or standards paternal physical punishment little maternal protectiveness	 .04 .05 .01 .05 .03
Nowicki and Segal (1974)	CNS-IE Scale (Nowicki and Strickland, 1973)	58	White, lower class Grade 12	Both	ANS-IE Scale (Nowicki and Duke, 1972a) P-C IRS (Heilbrun, 1964)	ANS-IE Scale I = perceived paternal internality perceived maternal internality P-C IRS I = maternal affection	 .01 .001 .05
Reimanis (1970) Study A	ILC (Bialer, 1961; Cromwell, 1963) CPT (Battle and Rotter, 1963)	47	All income classes Grades 1 and 3	Both	Interviews with mother	ILC I = amount of training to control child's feeling punishment not contingent on mood CPT I =	 .05 .05 n.s.
Study B	ILC (Bialer, 1961; Cromwell, 1963) CPT (Battle and Rotter, 1963) IAR (Crandall et al., 1965)	100	All income classes Grades 3 and 6	Both	Teacher ratings	ILC I = CPT I = good home environment (grade 5) IAR I+ good home environment	 n.s. .05 .05

TABLE II (CONTINUED)

SOURCE	LOCUS OF CONTROL SCALE	N	SAMPLE CHARACTERISTICS	PARENTS	INSTRUMENTATION	RESULTS	P <
Scheck, Emerich and El-Assal (1973)	I-E Scale Rotter (1966)	652	White Grade 9	Both	P-C R Questionnaire (Roe and Siegelman, 1963) IPD (Scheck, 1969) PDEC (Scheck, 1969)	I = parental consistency	.01
						maternal consistency	.01
						agreement with other parent	.01
						paternal support	.01
						maternal support	.01
						paternal casualness	.05
Solomon, Houlihan, Busse and Parelius (1971)	IAR (Crandall et al., 1965) ILC (Bialer, 1961; Cromwell, 1963)	38	Negro, lower class Grade 5	Both	Observed interaction	IAR	
						I Total =	
						father's encouragement of independent achievement efforts	.05
						father's request for child's contributions	.05
						mother's manipulation	.01
						mother's agreement	.05
						mother's disagreement	.05
						mother's total verbal participation	.01
						ILC	
						I =	
						father's hostility	.05
						father's agreement	.01
						father's request for child's contributions	.05
						mother's agreement	.05
Tolor (1967)	I-E Scale (Rotter, 1966)	34	College students	Both	MPAS (Pumroy, 1966)	MPAS	
						I =	
						indulgent parents	n.s.
Tolor and Jalowiec (1968)	I-E Scale (Rotter, 1966)	68	College students	Mother	PARI (Schaefer and Bell, 1958)	PARI	
						I =	
						non-authoritarian control	.05
						little hostility and acceptance	.05

is the opportunity to direct one's occupational activities. Conditions shown to promote the valuation of self-direction are freedom from close supervision, substantially complex work and a non-routinized flow of work. Kohn and Schooler (1973) further conclude that aspects of the job which elicit effort and flexibility are conducive to a favourable evaluation of self and an open and flexible orientation to others. In short, the realities of a person's job are generalized to non-occupational realities.

One of the areas affected by man's occupational experience is the manner in which he socializes his children. It is suggested that jobs such as blue collar ones, which require little manipulation of ideas, symbols and interpersonal relations lead blue collar parents to stress values of conformity and external standards such as orderliness, neatness and obedience. Such parents are also more likely to react to the consequences of the child's behavior, punishing the child whose behavior is disobedient, disruptive or annoying. Punishment is also often physical in nature.

The type of socialization used in the home would appear to be one factor which might be responsible for shaping the child's perception of the opportunity structure in the world. Methods of discipline which contain insufficient accompanying rationale might result in the child believing that he does not have control over events in his life.

No studies to date have explored the relationship between the locus of control expectancy and the father's occupational self-direction. Evidence (Goodstadt and Hjelle, 1973; Reimanis, 1970; Tolor and Jalowiec, 1968) of such a relationship is provided indirectly, through locus of control-discipline studies in which it has been shown that authoritarian

homes produce children with external beliefs.

Intervening Variables

A review of the locus of control literature indicates that there are several attributes of the child as well as characteristics of the family which may affect control expectancies in children in addition to the psychosocial variables already outlined above. These variables include the intelligence, age, sex and birth order of the child as well as the size and density of the family, the number of parents and the socio-economic status of the family. Since these variables have often shown a significant relationship with the locus of control variable, a review of the literature which has dealt with these other variables is presented below.

Intelligence of the Child

An empirical relationship between locus of control expectancy and intelligence has not always been supported by the research to date. For example, some studies (Boor, 1973; Brecher and Denmark, 1969; Gruen et al., 1973; Shaw and Uhl, 1971) have not obtained a significant relationship between these two variables. However, most studies have obtained a significant relationship for college and non-college adults (Powell and Centa, 1972; Powell and Vega, 1972) and for children (Bialer, 1961; Crandall, Crandall and Katkovsky, 1965; Crandall et al., 1965; Crandall, Katkovsky and Preston, 1962; Penk, 1969; and Shore et al., 1971). While it might be argued that locus of control merely represents the phenomenological response to one's own ability, Finlayson (1973) and Minton (1967) contend that because negligible correlations exist whenever the range of intelligence has been restricted, locus of control is not merely a function of intelligence.

Age of the Child

Several studies have demonstrated that children by grade three have fairly well established locus of control expectancies (Crandall et al., 1965; Katkovsky, et al., 1967; Nowicki and Strickland, 1973) which change in an internal direction with age (Bialer, 1961; Lifshitz, 1973; Nowicki and Duke, 1972a; Penk, 1969; Riedel and Milgram, 1970). In fact, Gruen et al., (1973) found that age accounted for more of the variance in I-E scores than did sex, ethnicity or socio-economic status.

Sex of the Child

Theoretically, the fact that females are given less status and self-direction in North American society (Aronfreed, 1968, Brown, 1956; Nowicki and Walker, 1972) suggests that females should be more external, that is, feel less in control of events, than males. Locus of control results with children, however, do not support this assumption. Rather, research findings (Buck and Austrin, 1971; Crandall et al., 1965; Crandall et al, 1962; Nowicki and Segal, 1974; Powell, 1971; Solomon, Houlihan and Parelius, 1969) fairly consistently show females to be more internal than males in grades one to twelve. For college and non-college adults, however, there is some evidence (Feather, 1967; Levenson, 1973; Minton, 1967; Nowicki and Duke, 1972a) that the expected theoretical sex difference exists. Because sex-locus of control results have been inconsistent, it was deemed to be important to control this variable.

Birth Order of the Child

Adler (Ansbacher and Ansbacher, 1956) theorized that children's personalities are partially determined by their ordinal position in a family. He proposed that children's personalities reflect the behavior

patterns evolved in response to the different experiences they have by virtue of occupying a particular position within the family constellation.

Several locus of control theorists have empirically examined this theoretical relationship between birth order effects and the child's locus of control expectancy. Table III contains a summary of the birth order-locus of control research. From this table, it can be concluded that first-borns, especially males, are more internal than later-borns. MacDonald (1971a) argues that this finding may be due to the fact the first-born is more highly socialized making him more susceptible to parental influence. Crandall et al. (1965) attributes the first-born's internality to the greater responsibility he must assume in the family. Nowicki and Roundtree (1971) found complex birth order-sex differences and conclude that the more one moves from being a first-born male, the greater the likelihood of his having an external orientation and for a girl, the greater the likelihood of her having an internal orientation.

Size and Density of the Family

Lewis and Goldberg (1969) hypothesize that a child who has many siblings and lives in overcrowded surroudings may be receiving varied stimulation but if he does not perceive meaning or order in his environment he may develop an external locus of control. Research (Crandall et al., 1965; Reimanis, 1971) supports this hypothesis, particularly for girls. Crandall et al. (1965) suggest that this difference is a result of the greater recognition and attention possible for each child in a small family. It should be noted though that Reimanis (1971) found boys from large families to be more internal which lead him to hypothesize that large families forced boys to become more competitive, and hence more

TABLE III

RELATIONSHIP BETWEEN BIRTH ORDER AND CONTROL EXPECTANCY IN CHILDREN

SOURCE	INSTRUMENT	SEX	N	GRADE(S)	RESULTS	P<
Crandall, Katkovsky and Crandall (1965)	Children's Intellectual Achievement Responsibility Questionnaire (Crandall, Katkovsky and Crandall, 1965) IAR	Both	923	grades 3 to 5	Firstborns versus later borns more internal	n.s.
				grades 6 to 12	Firstborns versus later borns more internal	.05
Eisenman and Platt (1968)	Internal-External Scale (Rotter, 1966) I-E Scale	Both	131	college	Firstborn males more external	.01
MacDonald (1971a)	I-E Scale	Both	476	college	Later borns more external than firstborns and more external than only children in two child families	.10 .03
Nowicki and Roundtree (1971)	Children Nowicki-Strickland Internal-External Scale (Nowicki and Strickland, 1973) CNS-IE Scale	Both	87	grade 12	Later born males more external and later born females more internal	.07 .07

internal, to gain their fathers' attention.

One/Two Parent Families

It has been suggested (Davis and Phares, 1969; Katkovsky et al., 1967; Walters and Stinnett, 1971) that parents have differential impacts upon their children. However, one researcher (Reimanis, 1970) who investigated locus of control expectancies among children, grades three to six, found no significant difference among those children living with two parents and those living under other circumstances, such as in a one-parent family.

Social Class of a Family

Class membership identifies a person or group with respect to degree of access or potential access to culturally valued goals (Hollingshead and Redlich, 1958). While the characteristics of a family may cushion the effects of social class membership upon the locus of control expectancy of a child, researchers (Battle and Rotter, 1963; Gruen et al., 1973; Lefcourt and Ladwig, 1965; Lessing, 1969; Powell and Vega, 1972; Shaw and Uhl, 1971; Strickland, 1972) have found that children's control expectancies vary fairly consistently with class membership. That is, the lower-class child has a more external orientation than a middle-class child.

Overview

From this review of the locus of control literature, it can be concluded that clearcut relationships do not exist between a child's locus of control expectancy and the psychological system of the child or between the locus of control expectancy and familial characteristics. One of the reasons for the lack of clearcut findings may be due to intervening

variables which have confounded the relationship between locus of control and its hypothesized antecedents. To enable a clearer picture of this relationship to emerge, this study will control for all the above variables which have previously been shown to be related to locus of control expectancy. In this way, it is hoped more definitive conclusions may be drawn about the relationship between locus of control and these hypothesized antecedents. By controlling these variables, a clearer statement regarding the utility of the locus of control instrumentation utilized in this study may also be made than would otherwise be possible.

III. SUMMARY

This chapter examined the concept, locus of control and examined four antecedent variables which may affect a child's locus of control expectancy. Two of these hypothesized antecedents, cognitive developmental level of the child and the occupational self-direction of the fathers had been virtually ignored to date. The other variables explored in this study, parental child-rearing practices and parental belief systems had previously been explored by other researchers as possible antecedents of control expectancies in young children. Almost inevitably, however, these studies did not control for the effects of intervening variables upon locus of control.

Because many variables had not been controlled in previous locus of control research, this study controlled for seven intervening variables by either sampling or statistical techniques. The variables controlled included the child's intelligence, sex, age, birth order, number of parents, socio-economic status and family size and density.

CHAPTER III

EXPERIMENTAL DESIGN

I. METHOD AND PROCEDURE

Based upon a review of the locus of control literature, seven intervening variables were identified. In order to control for the effects of these variables when testing the main hypotheses, each of the intervening variables was controlled. The method and rationale for controlling each of the intervening variables is outlined below.

Method of Control and Rationales

Sex, age and intelligence of the children was controlled by sampling only female children who were in the middle childhood period (ages 8 or 9; grades 3 or 4), with intelligence scores between 90 and 115. In addition intelligence scores were controlled through statistical techniques. The number of parents as well as the socio-economic status of the families was controlled by restricting the sample to only those families which were intact and in which the fathers' occupation was either skilled or semi-skilled. Two other variables, birth order of the child and the family size and density were statistically controlled.

The rationale to control the above variables was based upon past research which has often demonstrated a relationship between these variables and a child's control expectancy. Female children were selected be-

cause socialization practices of the family have a large impact on their world views (Baumrind, 1970). This influence may be a result of the greater family-orientation of girls than boys during the middle childhood years (Bowerman and Kinch, 1959). Children, 8 and 9 years of age were selected on the basis of past research which has shown that children at this age possess fairly stable personality traits (Crandall et al., 1965; Katkovsky et al., 1967; Nowicki and Strickland, 1973) and are able to successfully handle most locus of control items (Nowicki and Strickland, 1973). Additional reasons for choosing children from middle childhood were: parental influence is still salient (Bowerman and Kinch, 1959; Hoffman, 1971; Mosychuk, 1969); children experience the most severe and frequent punishment at this age (Jackson, 1955); and this age is regarded as representing "....a crucial turning point toward maturity...."(Boehm and Nass, 1962, p. 571). The rationale to control socio-economic status was based upon past research (Caldwell, 1967; Hess, 1970; Hunt and Dopyera, 1966; Seltzer, 1973) which has shown that much variability in behavior exists within each social class. By controlling the socio-economic status of the sample, it was therefore possible to determine whether a relationship existed between parental variables, such as child-rearing practices and the locus of control expectancies of female children, within a limited socio-economic range.

II. INSTRUMENTATION

The following section will contain a brief description of each of the instruments used in this study.

Nowicki-Strickland Internal-External Scales (CNS-IE and ANS-IE Scales)

The locus of control expectancies of both parents and daughters

were measured by a similar paper-and-pencil instrument. The Children Nowicki-Strickland Internal-External (CNS-IE) Scale and the Adult Nowicki-Strickland Internal-External (ANS-IE) Scale, which are the only instruments developed to date to measure both adult and children's control expectancies, were utilized in measuring the locus of control expectancies (Appendix B). Each consists of 40 items which are answered either "yes" or "no". The instruments, based on Rotter's definition of locus of control, describe reinforcement situations across interpersonal and motivational areas such as affiliation, achievement and dependency.

Psychometric Properties

Researchers, (Nowicki and Duke, 1972a; Nowicki and Strickland, 1973) report that the NS-IE Scales have construct validity as they correlate significantly with other locus of control measures. Split-half reliability scores ranging from .74 to .86 have been reported by Nowicki and Duke (1972a) on the ANS-IE Scale for a sample of college and non-college adults. The test-retest reliability for the college students over a six-week period was .83. The CNS-IE Scale is reported (Nowicki and Strickland, 1973) to have an internal consistency of .63 for grades three to five and .81 for grade twelve students. These researchers also found the test-retest reliability coefficient over a six-week period to be .63 for the grade three sample and .71 for the grade ten sample. The biserial item correlations for grades three to twelve are moderate but consistent.

Cognitive-Developmental Scales

Two scales which purport to measure cognitive development are the Psychological Causality Scale (Whiteman, 1967, 1970) and the Subjective

Responsibility Scale (Hebble, 1971). Both of these scales are based on Piaget's (1930, 1954, 1965) developmental stage theory. Piaget, who rejects the notion of a passive organism shaped by the environment, has developed the thesis that children are intrinsically motivated to explore and interact with their environment (Hunt, 1961; White, 1959). It is the interaction of these internal and external factors, through the process of equilibration, which influence the organism's transition from one developmental stage to the next. For Piaget, the concept of equilibration plays the major role in the development of structural change.

Psychological Causality Scale (PCS)

Whiteman (1967) suggests that the ability to understand the defense mechanisms which people employ might be an integral facet of the child's conception of psychological causality.

To measure the child's understanding of these different mechanisms of adjustment, he devised seven stories. The story areas developed (displacement, wishful dreaming, projection, regression, repression, rationalization and denial) were designed to explore how and when a child learns causal inferences. Studies using the PCS (King, 1971; Whiteman, 1967, 1970) have shown that the older child is better able than a younger child to direct his attention more toward the less salient underlying motivations and less toward the obvious overt behavior of the actor in the stories. This trend is consistent with Piaget's conceptualization of child development, that is, that as the child learns to decentre he is able to progress to a higher stage of cognitive development.

For the purposes of this study, only five stories as suggested by Whiteman (1970), representing the adjustment mechanisms of displacement,

regression, repression, rationalization and denial, were used. These stories are presented in Appendix B. Scoring criteria developed by Whiteman (1970) were used in coding the subjects' explanations of the stories. This procedure is described in Appendix C.

Psychometric Properties

Whiteman(1967) found the phi coefficients, that is, the association between particular items and the composite score derived from the seven stories, to be all significant at or beyond the .01 level. The median contingency coefficient was .55 with a range of .46 to .65. Test-retest reliability studies have not been carried out with this instrument.

Subjective Responsibility Scale (SRS)

The Subjective Responsibility Scale, devised by Hebble (1971) is based on the Piagetian (1965) two-stage cognitive theory of responsibility. The first stage which Piaget calls immature heteronomy (subject to another's law) or objective responsibility begins around age three and continues until approximately age nine when it begins to give way to autonomous thinking (subject to one's own law). Because the child cannot distinguish between his own perspective on events and that of others in the heteronomous stage, he tends to judge an act mainly on the basis of the amount of damage done or on the overt consequences of an act. Adults are viewed as being omnipotent and obedience is automatic without reasons or judgment. Punishment is regarded as a necessary retribution to restore the status quo and is given in proportion to the size of the misdemeanour independent of motive. In the second stage, called morality of cooperation or subjective responsibility, the child can differentiate between subject and object.

He now judges an act in terms of the actor's intentions to do harm. Piaget (Flavell, 1968) credits this shift from "heteronomous" morality to "autonomous" morality in part, to the decline in the child's egocentricity which results from increasing contradictions within the child's cognitive world.

The Subjective Responsibility Scale is based on the story-pair method of Piaget and also the intentionality questionnaire of Breznitz and Kugelmass (1967). In the scale developed by Hebble, four variations of each story are presented to the child in which the intentions of and the damage caused by the actor varies. Thus, the stories vary from good intent light damage (GL) to good intent heavy damage (GH) and from bad intent light damage (BL) to bad intent heavy damage (BH). By revising the Piagetian story-pair method, Hebble (1971) believes that more accurate assessment of a child's understanding of subjective responsibility can be made as children may otherwise "confound intent with damage if good intent is invariably followed by light damage and vice versa" (p. 1204).

To shorten the administration time, only four stories were used in this study. The stories which dealt with incidents concerning apples, high heel shoes, a lost child and stolen candy are presented in Appendix B. The stories were also altered so that the main character in each was a girl named, "Jane". The Intent Judgment Quotient, used to score the answers on the SRS, is described in Appendix C.

Psychometric Properties

There is sufficient relationship between the Breznitz and Kugelmass (1967) intentionality questionnaire and the SRS to assume that the SRS has a moderate degree of concurrent validity (Hebble, 1971). Hebble (1971), in his study, also found that even grade one children rated the stories in such a way that they "formed a hierarchy corresponding to the logical

order of naughtiness of variation types; GL, GH, BL, and BH" (p. 1209). Thus, Hebble's results were consistent with Piaget's theory that the older child is more morally mature, in that, he judges the stories more on the basis of intent than damage.

Hebble (1971) reports a test-retest mean intra-subject reliability coefficient for 115 subjects to be .69 ($p<.01$) with a standard deviation of .18. The mean intra-subject reliability coefficient for the individual grades tested ranged from .54 at grade one to .76 at grade six. On this basis, Hebble concludes that the ratings on the stories are reliable over a one-month period.

Instrumentation used for Parental Child-rearing Practices

A structured family interaction test, consisting of four hypothetical problem situations, was used to determine the child-rearing practices employed by the parents. The four situations were derived from the Subjective Responsibility Scale which was described above. To shorten administration time, only three variations to each of the four stories were presented to the parents. (These four stories are presented in Appendix B.) Each of the story situations read to the parents was a hypothetical situation involving their daughter, and they were asked to react to it. By varying the situations on intent and consequence, it was possible to measure the parents' reaction to the child's behavior, both when it was acceptable and nonacceptable. After each parent individually answered how he/she would handle his/her daughter

in each of the situations presented, the parents were brought together and were asked to go over the situations a second time together. In this way it was possible to determine whether their method of discipline would alter in the presence of the other parent.

Each session with the parents was tape-recorded and later transcribed. The transcripts were then analyzed for three aspects of parental child-rearing practices: coerciveness of punishment (mild-severe); control strategy employed (personal-positional-imperative); and consistency of policy regulations and enforcement (consistent-inconsistent). The relationship between the locus of control expectancy of the daughter and the child-rearing practices of each of the parents was examined as researchers (Bee, Van Egeren, Streissguth, Nyman and Leckie, 1969; Hess, 1970; Hess and Shipman, 1965, 1968; Jackson, 1956; Kamii and Radin, 1967; Lickona, 1969; Waters and Crandall, 1964) have observed that the method and degree of control exerted by each parent and by parents from different social classes varies.

Validity and Reliability

Although no reliability studies have been conducted to date using this technique, it has been employed in several other family interaction studies with considerable success. Hetherington and Frankie (1967), for example, found that both parental warmth and power were important factors in the identification process of girls while

paternal dominance was the salient factor in the identification of boys. Jacob (1974) used the method with middle and lower class families and found that his results were consistent with studies based on self-report data.

Regarding this type of structured situational test, Hetherington (1967) suggests that such a procedure allows the investigator to use a relatively standardized procedure to assess behavior which would otherwise occur infrequently in the normal routine of a family. Hetherington also reports that with this procedure parents are not able to substantially falsify their answers. In short, she suggests that

> such procedures are more direct, parsimonious and objective than is gathering data from parental reports, self-reports or observations of the child in unstructured situation (p. 106).

The three types of parental child-rearing practices and the method of scoring them will be dealt with in some detail below.

Coerciveness of Punishment

Schaefer (1972) suggests that a parent who reacts with impatience and rejection whenever a child errors will probably produce an external belief system in his child. On the other hand, if a parent expresses tolerance and encouragement concerning the child's misdemeanours, the child is more likely to feel secure enough to accept responsibility for his error.

Jackson (1955, 1956) has developed a method of classifying the severity of parental disciplining techniques. Seventeen types of punishment have been delineated which range from acceptance to creation of fear in the child. The more severe methods of discipline are more retaliatory than instructional in nature and tend to emphasize the wrongness of the child's behavior while leaving unexplained the reasons why the behavior is wrong. However, if retaliatory methods are coupled with milder forms of punishment which include instruction, the effect would probably be less traumatic for the child. The inclusion of the milder methods would enhance the "fairness" of the more severe methods. Exclusive use of severe forms of punishment do not leave the child with an understanding of why his behavior is wrong or what future behavior is expected from the parent.

A list of the categories and the scoring procedure is presented in Appendix C.

Control Strategies

Bernstein (1961) suggests that there are three modes of social control: (1) imperative; (2) positional; and (3) personal. Cook-Gumpertz (1973) has grouped several strategies of control under each of these three modes. The strategies range from imperatives and verbal punishment to child-oriented affective and cognitive child appeals and are outlined in Appendix C. Scores were derived on the basis of parental answers to the

Apples Story and ranged from a high score or 20 designating a parent who used imperatives to control the child to a low score of 8 given to a parent who justified the control used with more person-oriented appeals. It was felt that family differences in social controls relay to the child an understanding of the parents' perceptions of the social structure of the society. Bernstein describes his theory as an attempt to show how the class system acts upon the structure of communication in the process of socialization. For example, if the parent uses constraint to control the child rather than the "transmission of principlies," the child learns to perceive the world as a system of hierarchies rather than one based on principles.

Bernstein suggests that parents who control their children by means of imperatives reduce alternatives for the child as the child is constantly controlled by superior forces of either a physical or symbolic nature. Positional-oriented families, on the other hand, present rules to the child as though the rules were self-sufficient requiring no explanation at all. In this case, rules are seen as being universal and applicable to everyone. The third type of parents use a person-oriented method of control. They treat each child as an individual and provide elaborate cognitive-rational explanations when presenting a control strategy.

Consistency of Policy Regulations

Baldwin et al. (1949) suggest that a parent who uses clear, consistent policies with his child will have a child who is not surprised or

confused by the consequences of his behavior. Based on this premise, Baldwin et al. (1949) have developed a rating system which takes into account the clearness with which the parent describes his policy and the consistency with which he executes it. This sytem is presented in Appendix C.

Jackson (1955) also suggests that the parent who uses mild and severe punishment to control the child is uncertain about the best method of discipline. This fluctuation in the punishment of the parent can be more objectively scored by examining the range of coerciveness of the punishment scores. This was done by developing a rating system based on the parents' responses to the bad intent/light damage and bad intent/heavy damage variations of the "Candy" and "Streets" stories. For example, a parent who said "...yes I think I would punish.... She would probably get a few swats...." when the child took ten pieces of candy but who said "Oh, well, I wouldn't punish her for that...." when the daughter took only one piece was given an inconsistent score relative to the parent who judged each story basically on the basis of the child's intent and disciplined the child similarly in each situation. This rating system is also presnted in Appendix C.

Index of Occupational Self-Direction (IOS)

The dimensions of work which were indexed by Kohn and Schooler (Kohn, 1969; Kohn and Schooler, 1973) to measure occupational self-direction included the substantive complexity or work, the routinization or

diversity of the flow of work and the degree of supervision encountered in one's work. Substantive complexity consisted of an index of the complexity of man's work with data, things and people as well as an overall appraisal of the work and time spent at each activity. Routinization of work consisted of a measure of the complexity and repetitiveness of the work while closeness of supervision examined the amount of latitude the supervision allowed and the degree of supervisory control the worker exercised. Kohn suggests that substantive complexity is the most important but that the other two conditions add to the total impact. The ten questions devised by Kohn (1969) to measure the effects of the job on the psychological functioning of man are outlined in Appendix B (Father's Interview Schedule).

Psychometric Properties

Kohn and Schooler (1973) obtained a .78 correlation between the job descriptions supplied by 3101 respondents in their study and the appraisals of the complexity of work for each of the same jobs contained in the Dictionary of Occupational Titles (U.S. Department of Labor, 1965). This finding suggests that the IOS obtains relatively reliable data regarding men's occupations. Controlling for education, Kohn and Schooler (1973) also found a .41 correlation between the occupational conditions of the man's job and his level of psychological functioning; thus suggesting that the IOS is a valid instrument. Tests of reliability have not been conducted to date.

Hollingshead Two Factor Index of Social Position

The Hollingshead Two Factor Index of Social Position (Hollingshead

and Redlich, 1958) divides society into five strata on the basis of a combination of weighted values for education and occupational position. Using this instrument only those men whose occupation was skilled or semi-skilled and whose range of scores on the Hollingshead's Two Factor Index was 32 to 63 (Class III and IV) were selected. Hollingshead and Redlich (1958) describe this range as lower-middle and working class.

Peabody Picture Vocabulary Test (PPVT)

Form A of the Peabody Picture Vocabulary Test (Dunn, 1959, 1965) was used to select a sample of female children whose intelligence scores ranged from 90 to 115. This intelligence measure is an untimed individual test which can be administered in 15 minutes or less. It consists of 150 plates, each of which contains four pictures representing objects, concepts or activities.

Psychometric Properties

Gage and Naumann (1965) found a correlation of .68 ($p \leq .01$) between scores on the Wechsler Intelligence Scale for Children and the PPVT Form A for a group of children 5 to 16 years-of-age. Zigler, Abelson and Seitz (1973) report that scores on the PPVT are generally equivalent or higher than on the Stanford-Binet for nondisadvantaged children. Milgram and Ozer (1967) found the test-retest reliability of the PPVT to range from .69 to .80 for a group of children ages three to six. In sum, the PPVT is a test of intelligence which is easy to administer and which provides valid results (Johnson and Shinedling, 1974).

Family Size and Density Index

The instrument utilized to measure family size and density in this

study was developed by Waldrop and Bell (1964) and is based on weighted scores for four components. As indicated in Appendix A, these four components are: (a) total number of children in family; (b) time span between a selected child and the next younger sibling; (c) time span between the selected child and the next older sibling; and (d) average time span between births. A high score represents a family with many children which are relatively close in age.

III. HYPOTHESES

The four hypotheses to be tested are presented below. Based upon a review of the locus of control literature, the direction of the relationship between the daughters' control expectancy and the four psychosocial variables is predicted in all cases. Sampling methodology allowed the sex and age of the children and the socio-economic status and other characteristics of the family to be held constant. Statistical controls were implemented for the intelligence, birth order and family size and density variables.

Hypothesis One

There will be a positive relationship between children's internal control expectancy and their cognitive development.

Sub-hypotheses

There will be a statistically significant positive correlation between the children's internal control scores as measured by the Children Nowicki-Strickland Internal-External Scale and a higher cognitive developmental level as measured by:

(a) the Psychological Causality Scale; and

(b) the Subjective Responsibility Scale.

Hypothesis Two

There will be a positive relationship between children's internal control expectancy and their parents' mild, personal and consistent child-rearing practices.

Sub-hypotheses

There will be a statistically significant positive correlation between the children's internal control score as measured by the Children Nowicki-Strickland Internal-External Scale and:

(a) their fathers' mild, personal and consistent child-rearing practices as measured by the Family Interaction Task;

(b) their mothers' mild, personal and consistent child-rearing practices as measured by the Family Interaction Task; and

(c) their parents' mild, personal and consistent child-rearing practices as measured by the Family Interaction Task.

Hypothesis Three

There will be a positive relationship between children's internal control expectancy and the internal control expectancies of their parents.

Sub-hypotheses

There will be a statistically significant positive correlation between the children's internal control score as measured by the Children Nowicki-Strickland Internal-External Scale and:

(a) the fathers' internal control scores;

(b) the mothers' internal control scores; and

(c) the parents' internal control scores

as measured by the Adult Nowicki-Strickland Internal-External Scale.

Hypothesis Four

There will be a statistically significant positive correlation between the children's internal control score as measured by the Children Nowicki-Strickland Internal-External Scale and their fathers' occupational self-direction as measured by the Index of Occupational Self-Direction.

IV. DATA COLLECTION

The Sample

The sample consisted of 40 grade three and four female children and their parents residing in Edmonton, Alberta. All children selected were attending three schools within the Separate School System and each met the following criteria:

(a) was eight or nine years of age;

(b) had an intelligence score of 90 to 115 on the Peabody Picture Vocabulary Test; and

(c) was Catholic.

In addition each family met the following criteria:

(a) the father's occupation was skilled or semi-skilled and his socio-economic status as measured by the Hollingshead Two Factor Index of Social Position was lower-middle of working class;

(b) the mother was not working full time; and

(c) each child was living with both her mother and father.

Procedure

A list of female children who met the above criteria for the study was first drawn up on the basis of information contained in the school records. On the basis of random sampling, sixty children were selected for the study. Next, a letter (Appendix A) explaining the nature of the study

was mailed to the parents of these children, and this was followed within a week by a phone call requesting the parents' cooperation in the study. Where necessary, the parents were also seen in their home and the study was further explained to them. Fifty families were called before the necessary 40 for the sample was secured, making the refusal rate 20 percent.

After receiving the parents' cooperation, the girls were tested either at home or school, whichever was preferable to the family. This involved administering to each child the Children Nowicki-Strickland Internal-External (CNS-IE) Scale, the Psychological Causality Scale (PCS), the Subjective Responsibility Scale (SRS) and the Peabody Picture Vocabulary Test (PPVT) in counterbalanced order. The instructions and items were read to each child individually and her answers were recorded on the appropriate answer sheets. Administration time varied from 40 minutes to one hour with most children completing the tests in 40 minutes.

The parents were interviewed in their homes at their convenience by the investigator and one other female interviewer. The second interviewer was also female as Tari (1971) has noted that fathers respond more readily to female than to male investigators. Each parent was interviewed individually by one of the interviewers. This consisted of giving each of them the Interview Schedule, the Adult Nowicki-Strickland Internal-External (ANS-IE) Scale and the Family Interaction Task. After completing these instruments individually, the parents were then together given the four hypothetical problem situations on the Family Interaction Task. (Whenever parents wished their daughter to be present, this was permitted.)[1] The family interviews took from one to two hours, averaging approximately one and one-half hours.

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[1] Since only three children were present at the parent interview, this should not have biased the results.

The characteristics of the sample are presented in Table IV. From this table, it can be seen that the average age of the children was 108 months and that they were fairly equally distributed between grades three and four. The average number of children in each family was 4. The age of the fathers when their daughters were born was slightly older than that of the mothers. Educationally, the men and women were similar but there were slightly fewer women than men with less than grade nine education.

V. STATISTICAL ANALYSIS

Because the three intervening variables, intelligence, birth order and family size and density had low product-moment correlation coefficients (-.09, -.07 and .03, respectively) with the control expectancy variable, it was not necessary to control their effects. Therefore, it was possible to directly submit the four hypotheses under consideration in this study to Pearson's product-moment correlational analysis. T-tests were performed to determine if the correlation coefficients obtained were significantly different from zero.

The ten items constituting the Index of Occupational Self-Direction were subjected to an orthogonally rotated principal-component analysis as suggested by Kohn (1974) and the resultant varimax factor loadings were consistent with those derived by Kohn. From the factor loadings, component scores for each of the 40 men were derived. It was then possible to obtain a Pearson's Product-Moment correlation coefficient between these component scores for each of the men and the corresponding locus of control scores for their daughters.

TABLE IV

SAMPLE CHARACTERISTICS (N=120)

CHARACTERISTIC	N
SOCIO-ECONOMIC STATUS OF FATHER	
Class III	27
Class IV	13
EDUCATION OF MOTHER	
Grade 8 or less	9
Some high school	19
Complete grade 12	12
EDUCATION OF FATHER	
Grade 8 or less	13
Some high school	14
Complete grade 12	13
MOTHER'S AGE WHEN DAUGHTER BORN	
40 - 47	3
32 - 39	5
24 - 31	17
15 - 23	15
FATHER'S AGE WHEN DAUGHTER BORN	
40 - 47	5
32 - 39	14
24 - 31	13
15 - 23	8
NUMBER OF CHILDREN	
2	10
3	10
4	12
5+	8
Average number	4

CHARACTERISTIC	N
GRADES OF CHILDREN	
Grade three	21
Grade four	19
AGE OF CHILDREN	
96 - 103 months	14
104 - 111 months	9
112 - 119 months	17
Average age	108
SCHOOL ATTENDED	
St. Clair	9
St. Francis	19
St. James	12
LANGUAGE SPOKEN BY CHILD	
English only	26
Other language	14
INTELLIGENCE SCORE	
90 - 115	40
Average IQ	108.675
RELIGION	
Catholic	40

Reliability Analyses

Biserial correlations were calculated for each of the Nowicki-Strickland Internal-External Scales. The correlations ranged from -.36 to .73 for the sample of grade three and four girls. Nowicki and Strickland (1973) have reported biserial correlations on the CNS-IE Scale to range from .01 to .53 for a grade three sample. Biserial correlations for the sample of mothers in this study ranged from -.51 to 1.19 and from -.14 to 1.21 for the sample of fathers. For a noncollege sample, Nowicki and Duke (1972a) have reported a range of .03 to .60 on the ANS-IE Scale. On the basis of these studies, the biserial correlations would appear to be generally less consistent in the present study than those reported in the literature.

The overall internal consistencies for the three tests as estimated by the Kuder-Richardson (KR_{20}) formula were .68 for the sample of female children, .39 for the mother and .69 for the father samples. Nowicki and Strickland (1973) reported the internal consistency via the split-half method corrected by the Spearman-Brown formula to be .63 for their sample of children (grades three to five). Nowicki and Duke (1972a) reported split-half reliabilities ranging from .74 to .86 for the adult sample in their study. The test-retest reliability coefficient was .66 for the sample of grade three and four females in this study (tested six-weeks apart). This is comparable to a test-retest reliability of .63 reported by Nowicki and Strickland (1973) for a sample of grade three students tested six weeks apart.

VI. SUMMARY

The theoretical and methodological rationales for choosing a

particular sample were described in this chapter. The instruments utilized in selecting the sample were also presented, with a brief description of each. The four hypotheses; the sampling procedure and the statistical procedure used to test the four hypotheses were also described.

CHAPTER IV

RESULTS AND INTERPRETATION

I. RESULTS

The purpose of this chapter is to report the tests of each of the four hypotheses as outlined in Chapter III using the Pearson's Product-Moment correlational method. One-tail t-tests were used to test for levels of significance as directionality of relationships was predicted for all hypotheses. An alpha level of .05 was used to test for significance.

Table V presents the results in summary form. The remainder of this chapter will consist of an interpretation of these results in light of related research.

Hypothesis One

There will be a positive relationship between children's internal control expectancy and their cognitive development.

Sub-hypotheses

There will be a statistically significant positive correlation between the children's internal control scores as measured by the Children Nowicki-Strickland Internal-External Scale and a higher cognitive developmental level as measured by:

(a) the Psychological Causality Scale; and

(b) the Subjective Responsibility Scale.

This hypothesis was only partially supported. The child's internal locus of control was significantly related ($p < .05$) to a higher cognitive-developmental level as measured by the PCS but not as measured by the SRS.

TABLE V

PRODUCT-MOMENT CORRELATION COEFFICIENTS

BETWEEN THE DEPENDENT AND INDEPENDENT VARIABLES

HYPOTHESES	INSTRUMENTATION	FEMALE SAMPLE (n=40)	FATHER SAMPLE (n=40)	MOTHER SAMPLE (n=40)	FAMILY SAMPLE (n=40)
Internality related to:					
H_1					
Cognitive-Development level of the child	PCS	-.27*			
	SRS	.05			
H_2					
Parental Child-rearing Practices	Structured Family-Interaction Task				
(1) mild punishment			-.43b	.44***b	.25
(2) personal control strategy			.23	.48***b	.24
(3) consistency of policy regulations			-.11	.61***c	.42**b
H_3					
Parental Internality	ANS-IE Scale		.25	.12	.28*
H_4					
Fathers' Occupational Self-Direction	IOS		-.14		

*p<.05 (one-tail) *a<.05 (two-tail)
**p<.01 (one-tail) **b<.01 (two-tail)
***p<.001 (one-tail) ***c<.001 (two-tail)

(Because the CNS-IE Scale is scored in an external direction and the PCS is scored so that a higher score reflects a higher level of cognitive development, the resulting correlation is a negative one.) Although the correlation between the children's score on the CNS-IE Scale and the SRS was not significant, it was in the expected direction.

Hypothesis Two

There will be a positive relationship between children's internal control expectancy and their parents' mild, personal and consistent child-rearing practices.

Sub-hypotheses

There will be a statistically significant positive correlation between the children's internal control score as measured by the Children Nowicki-Strickland Internal-External Scale and:

(a) their fathers' mild, personal and consistent child-rearing practices as measured by the Family Interaction Task;

(b) their mothers' mild, personal and consistent child-rearing practices as measured by the Family Interaction Task; and

(c) their parents' mild, personal and consistent child-rearing practices as measured by the Family Interaction Task.

As indicated by the results presented in Table V, this hypothesis was partially supported. Most of the support came from the mothers' child-rearing practices, which were all significant at the .01 level or beyond. That is, the results indicated that mothers who did not discipline severely, who used a more personal-oriented control strategy and who presented their discipline policies consistently were more likely to have daughters with an internal locus of control. The combined parents' consistency of policy scores were also significantly related to the daugh-

ters' internal locus of control at the .01 level. Two patterns of child-rearing utilized by the father, that is, mild punishment and consistent policy regulations, were negatively related to the daughter's internal locus of control score. In fact, the correlation between the fathers' mild punishment score and the daughters' internality were significantly related in the opposite direction predicted. Thus, on the basis of these results it would appear that a father who disciplines severely has a greater likelihood of having an internal daughter than a father who does not discipline severely.

Hypothesis Three

There will be a positive relationship between the children's internal control expectancies and the internal control expectancies of their parents.

Sub-hypotheses

There will be a statistically significant positive correlation between the children's internal control scores as measured by the Children Nowicki-Strickland Internal-External Scale and:

(a) the fathers' internal control scores;

(b) the mothers' internal control scores; and

(c) the parents' internal control scores

as measured by the Adult Nowicki-Strickland Internal-External Scale.

This hypothesis received some support from the results. The correlation (.28) obtained between the parents' combined score and the daughters' scores was significant at the .04 level. The father-daughter I-E correlation coefficient (.25) and the mother-daughter correlation coefficient (.12) were in the predicted direction but did not reach the necessary alpha level for signficance.

Hypothesis Four

There will be a statistically significant positive correlation between the children's internal control scores as measured by the Children Nowicki-Strickland Internal-External Scale and their fathers' occupational self-direction as measured by the Index of Occupational Self-Direction.

Following the procedure outlined by Kohn and Schooler (1973) for scoring the Index of Occupational Self-Direction, a smaller score on the IOS indicated a job which was complex and which allowed the man to exercise considerable self-direction. The negative correlation (-.14) obtained, while low, was in the opposite direction predicted. This finding resulted in hypothesis four being unsupported.

II. REVIEW AND POST HOC ANALYSIS

A review of the results shows that of the three familial variables investigated, only four of the nine parental child-rearing practices and only the combined parents' I-E scores were significantly related to the child's internal control expectancy in the direction predicted. In fact, some of the relationships, such as the fathers' child-rearing practices and the fathers' occupational self-direction, were in the opposite direction predicted.

The results of this study also did not support the thesis that a strong developmental-locus of control relationship exists in female children. Although the correlation between the PCS and CNS-IE Scale was significant, it accounted for approximately only 9 per cent of the total variance. Furthermore, a significant relationship was not found between the second cognitive-developmental scale (SRS) employed in the study and the CNS-IE Scale.

Because several correlations were in the opposite direction predicted, a post hoc analysis was undertaken. By utilizing a two-tail test of significance and not predicting directionality, the overall findings were slightly altered. The results of the two-tail test are also indicated in Table V.

By not predicting directionality the correlations between the children's internality and their cognitive-developmental level as measured by the PCS and the SRS were not significant. This result allows a more definitive statement regarding the relationship between the cognitive-developmental level of a child and her level of control expectancy to be drawn than was possible with the one-tail test. Clearly, the two appear to bear little relationship in female children in this age group.

Utilizing a two-tail test to measure for significance resulted in an additional significant relationship between the daughters' internality and the parental child-rearing practices. This significant relationship was obtained for female children whose fathers employed a severe form of punishment. Fathers who utilized severe punishment had a greater likelihood of having children with internal control expectancies than fathers who employed mild punishment.

A two-tail test resulted in the internality of parents and children as measured by the CNS-IE and the ANS-IE Scales being not significantly related. This finding differs from the one-tail analysis which resulted in the combined parental internality scores being significantly related to the daughters' internality.

The final correlation examined, utilizing a two-tail test, was the relationship between the fathers' degree of self-direction and their daughters' internal control expectancies. As with the one-tail test, this relationship was not significant.

Overall, a clearer picture of the variables which bore a significant relationship to the daughters' internality emerged using a two-tail test. However, because the hypotheses were stated predicting directionality, the following dicussion will attempt to interpret the findings in light of the one-tail test results.

III. DISCUSSION

The Psychological System of the Child

Although small, a significant correlation was obtained between the CNS-IE Scale and the PCS but not between the CNS-IE Scale and the SRS. Since it is purported that both the Psychological Causality Scale (PCS) and the Subjective Responsibility Scale (SRS) measure cognitive-development in children, an attempt will be made to analyze this lack of consistency. First the psychometric qualities of the instruments utilized in this study will be analyzed in light of results obtained with them in past research. Additional theoretical considerations will also be advanced to explain inconsistent findings wherever they occur.

Children Nowicki-Strickland Internal-External Scale (CNS-IE)

The CNS-IE Scale mean obtained with the grade three (17.85) and four (18.68) sample in this study is comparable to other means reported (17.63 and 17.85) for children of this age group (Strickland, 1973 and Nowicki and Walker, 1973). Even the unexpected externality of the grade four subjects is consistent with that reported by Nowicki and Strickland (1973). In each study, the grade four children held a more external

orientation than their grade three counterparts; thus reversing the expected developmental trend toward internality with age (Lawrence and Winschel, 1975).

Subjective Responsibility Scale (SRS)

The mean SRS score of the subjects in this study (1.34) was considerably higher than the means reported by Hebble (1971) for his sample of grade three (.80) and four (.65) females. Since a high score indicates children whose developmental level is more damage-oriented than intent-oriented, it must be assumed that the subjects in this study were considerably more damage-oriented than Hebble's subjects. These discrepant findings may be attributed to characteristics of either the SRS or the subjects. Since a shortened version of the SRS was administered in this study, the lack of consistent findings may be a result of a biased instrument. On the other hand, since the instrument was not considerably shortened, the inconsistency is more probably due to socio-economic and intelligence differences of the two samples. For example, Hebble's children who were from upper middle class families had intelligence scores over 110. In contrast, children in the present study were lower-middle and working class, with most intelligence scores below 110.

However, upon further analysis of the results of this study, it was determined that intelligence was only minimally related to the SRS scores ($r=-.01$); thus suggesting that social class with its concomitant child-rearing practices may best explicate the different results. Kohn (1959a, 1969b), as well as Gecas and Nye (1974), for example, found that middle class children are punished on the basis of the child's intent while working class children are more often punished on the basis of the consequences of the child's disobedience. Given these class-related

socialization practices, a working class child would be socialized to disregard the actor's intent on the SRS stories. In this study, evidence to support this theory was not possible as a middle class sample necessary for such a comparison was not included.

Further analyses of the results do show, however, that there was a significant ($p < .05$) positive correlation between damage-oriented SRS scores and the severity of punishment used by both mother and father. Additional analyses also provided some evidence for a class damage-oriented relationship. This statement is based upon the negative correlation (-.20) obtained between the fathers' socio-economic status and the daughters' SRS scores. On the basis of this correlation, it would appear that a child from a working class home is more apt to judge the SRS stories on the basis of damage than is a female from a lower-middle class. These two findings suggest that class related child-rearing practices may have been the major factor influencing SRS scores in a damage-oriented direction.

The results of this study were only minimally supportive of a developmental shift with age on the SRS as reported by Hebble (1971). While Hebble reported a significant shift toward intentionality between grades three and four, a nonsignificant correlation (-.05) was obtained in this study. Armsby (1971), however, using an instrument similar to Hebble's Subjective Responsibility Score, was not able to demonstrate a significant shift toward morality of cooperation at this age level. The results of the Armsby study suggests that definite developmental shifts with children of this age do not always result. The conclusion to be drawn from the Armsby study as well as from the present study relative to the stage theory of Jean Piaget is that while the results contradict the

usual direction of child development, longitudinal studies would more adequately answer this question. These results also suggest the need for further work with the SRS in order to demonstrate its reliability with children in middle childhood.

Psychological Causality Scale (PCS)

The median contingency coefficient on the PCS, that is, the expression of the relationship between the scores of the individual stories, and the total score, was reported by Whiteman (1970) to be .55. In the present study, the coefficient was .52 . While this provides some evidence for the comparability of the results of the two studies, it was not possible to compare PCS sample means[1] as Whiteman (1967, 1970) did not provide mean ratings in his studies. The ability of the children to successfully answer all questions does, however, appear to be similar. None of Whiteman's (1970) subjects, for example, were able to get the point of four of the five stories while only one female in the present study scored at this level.

King (1971), in addition to Whiteman (1967, 1970), has noted a strong developmental age relationship with the PCS. Similar to the findings of these researchers, the correlation in the present study was .54 suggesting that the grade four children were at a higher developmental level than their grade three counterparts. The absence of a significant PCS intelligence correlation (.05) in this study is also consistent with Whiteman's (1970) findings.

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[1] The PCS stories in this study were independently scored by two raters following the procedure outlined by Whiteman (1970). The percentage of agreement was 92 percent.

Comparability of results, however, was not found between the children's cognition of psychological causality and their concept of subjective responsibility in the two studies. Although different instruments were utilized to measure subjective responsibility, Whiteman obtained a significant relationship ($p=.01$) while a nonsignificant relationship was obtained in the present study ($p=.20$). The low retest reliability of the SRS at the grade three level[1] may explain these discrepant findings. Sample characteristics might also have produced the different results. Whiteman's sample, for example, was heterogeneous relative to the restricted lower-middle and working class sample of the present study. Whiteman's subjects were also predominantly male whereas a totally female sample was used in the present study.

Theoretical Considerations

Contrary to Whiteman's findings, Berzonsky (1973) did not find psychological causality and subjective responsibility significantly related in his study. He concluded on the basis of these findings that the growth in moral judgment was not a correlate of psychological causality. He further argued that such a relationship was not to be expected as each concept requires a different ability. For example, he notes that in the subjective responsibility stories the behavior of the actor is made explicit while in the psychological causality stories the actor's motives are internal and implicit forcing the child to make inferences. According to Berzonsky, it can be theoretically argued that the child who understands one concept quite justifiably should not understand the second.

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[1] Hebble (1971) found the reliability coefficient of the SRS for this group to be only .37.

Arguments have also been advanced by Arbuthnot (1973) that researchers should not expect maturity of moral judgment to be related to non-structural measures such as locus of control expectancy scales. On the basis of his study with lower-middle high school males in which a nonsignificant correlation of -.26 was obtained, Arbuthnot concludes "....that moral judgment is a cognitive-developmental phenomena and not simply a product of social learning" (p. 946).

If Arbuthnot is correct, a significant correlation between the CNS-IE Scale and SRS or the PCS should not be expected. However, it is also possible that the ability to make moral judgments is an age-related process involving both social and cognitive elements, in which case a significant relationship should be anticipated. One reason which could be advanced to explain the lack of a statistical significance between the SRS and the CNS-IE Scale is the restricted socio-economic range of the sample in this study and also the limited range of the children's scores on the SRS. If, as Boehm (1957) suggests, the socialization practices of the lower classes encourage an unquestioning acceptance of adult-imposed rules, children from this social class may be prevented from encountering conflicts and incompatibilities in their surroundings. According to Piaget (1965), this unquestioning attitude would result in the child not attaining the necessary prerequisites for reaching a higher developmental level. This, then, would explain the limited range of SRS scores obtained in this study.

Peer group interaction is another variable which may confound a developmental-locus of control relationship. Theoretically, it could even be argued that peer group interaction which is full of conflict would

result in a higher developmental level while simultaneously leading to a more external world view.

Piaget (1965), for example, has noted that the development of the ability to make more mature moral judgments is greatly influenced by a child's interaction with his peer group. The result of this interaction forces the child to begin to question his own cognitions and also to begin to distinguish between his own perspective and that of other people. As the child's cognitive structure is modified and transformed through this peer group interaction, he is able to attain qualitatively higher developmental levels. Conversely, however, it has been suggested by locus of control researchers (e.g. K. White, 1972) that peer group interaction may lead to more external orientations in children. This is particularly true if the interaction results in negative feedback. Theoretically, then, peer group interaction may alter a child's moral judgment in the direction of autonomy and subjectivity while altering his control expectancy in an external direction. For this reason, peer group interaction may be an important confounding variable which mitigates against the presence of an internal-moral responsibility relationship which other theoretical considerations would suggest should exist.

The age of the sample is another important factor which may explain the small correlation obtained in this study between the SRS and the CNS-IE Scale. Lickona (1969) for example, has suggested that in eight and nine-year-old children, the stage of heteronomy has not yet given way to autonomy. For this reason the two attitudes may coexist simultaneously in a child making the measurement of moral judgment extremely precarious for this age group. The coexistence of autonomy and heteronomy in Hebble's

(1971) grade three sample, would explain the low reliability coefficient he obtained. Further evidence suggesting that this age group is in a state of rapid transition comes from locus of control research. Nowicki and Strickland (1973), for example, noted a reversal in the trend toward internality at this age. The results of this study lend support to the speculation and research of other researchers that children in grades three and four are indeed developmentally unstable and suggest that future investigators should approach this age group with caution. In addition, however, the results of this study show this age group of children to be developmentally very exciting to research.

Mechanisms of Socialization

The three mechanisms of socialization investigated, that is, the parental child-rearing practices, parental belief system and fathers' occupational self-direction, as already stated, did not completely support hypotheses two, three and four. Because the findings were not always supportive of the hypotheses, the findings obtained and the instruments utilized will be assessed in light of past research.

Child-rearing Practices

The parental child-rearing results obtained in this study basically support earlier research (e.g. Chance, 1972; Davis and Phares, 1969; Joe, 1971; MacDonald, 1971b) that nurturant, warm, consistent, protective, approving and accepting parents are more likely to have a daughter whose locus of control expectancy is internal than are parents with the opposite characteristics. The fact that the three child-rearing patterns used by the mothers were all significantly related to the daughters' belief

in internality indicates that if a causal relationship does exist, mothers have more influence in the development of this personality variable than do fathers. Perhaps as Jackson (1956) suggests, mothers tend to feel more responsible for the child's behavior, hence are more apt to use methods of control which will ensure the disappearance of undesirable behavior. If, as Jackson (1955) found in his study, the mothers in this study were also the more frequent dispensers of punishment, this could result in the mothers having a greater impact in the development of their daughters' internality.

Similar to Jackson's (1955) findings, the parents in this study, suggested several forms of punishment to each of the hypothetical situations. As in Jackson's study, the mothers in this study also recommended more severe forms of punishment than did the fathers.[1] It was the fathers, however, who suggested the milder forms of punishment, which is inconsistent with Jackson's study in which the mothers also suggested the milder forms of discipline.

Although the relationship between two of the fathers' child rearing practices (coerciveness of punishment and consistency of policy regulations) and their daughters' internality was in the opposite direction predicted, the unexpected results were not completely inconsistent with past research. Baumrind and Black (1967), for example, found paternal punitiveness to be associated positively with independence in girls which suggests that a rejecting home environment may force girls to become more independent in order to satisfy their needs. Similarly, Katkovsky, Cran-

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[1] The mean score of the mothers was 8.025 while it was only 7.725 for the fathers. However, in the joint session, the parents together suggested the most severe form of punishment with the mean being 8.050.

dall and Good (1967) found that nurturant fathers promoted an external orientation in daughters. Reimanis (1970, 1971) also found that females in grades three to six are more likely to seek more independence and self-reliance and become more internal if their home conditions are somewhat unstable and unsupportive. Consistent with these findings, Bronfenbrenner (1961a) suggests that a home environment which is slightly punitive and unstable may be especially important for the development of independence in lower-middle class girls as they tend to be overprotected.

Baumrind and Black (1967) suggest that because the most punitive fathers in their study were also the ones who were the most inconsistent and the most unsure of their effectiveness, the daughters were probably able to effectively resist their fathers' punitive demands. In the present study, the correlation coefficient between the fathers' punitiveness and consistency scores was -.16 which does not support Baumrind and Black's finding and suggests rather that the fathers who were the most punitive, were also the most consistent in their punishment. The punitive fathers also were somewhat more internal (r=-.17) in this study, which suggests that there was a tendency for punitive fathers to believe that they were effective agents in their environment; also contrary to Baumrind and Black's finding. On the basis of this study, it would appear that fathers who discipline in a punitive, consistent manner and who have an internal control belief have a greater likelihood of having internal daughters than do fathers who discipline in the opposite manner.

Parental Belief System

Past research (e.g. Duke and Mullens, 1973; Nowicki and Duke, 1972a)

have reported lower mean adult scores on the ANS-IE Scale (9.20 and 10.96) than the mean (11.77)[1] found in this study. However, socio-economic status differences may explain some of this discrepancy. Consistent with other research (e.g. Minton, 1967), the mothers' mean scores (12.43) in this study were more external than those of the fathers (11.10).

As shown in Table V, a stronger relationship was obtained between the father-daughter I-E scores than between the mother-daughter scores. Two reasons may be advanced to explain this finding. Firstly, it has been hypothesized (Kagan and Lemkin, 1960) that children of this age see their fathers as being stronger, smarter and more the "boss of the house"; which may result in their being more influenced by his belief system. Secondly, the low Kuder-Richardson reliability coefficient (.39) obtained for the women in this study on the ANS-IE Scale, suggests that it may be an unreliable instrument for lower-middle and working class women. Before the relative impact of the belief system of each parent upon their daughter's internality can be more definitively assessed, considerable research is needed to demonstrate the reliability of the ANS-IE Scale with non-college females.

Upon further analysis of the data in this study, it was found that a significant correlation (.43) exists between the belief system of the mothers and fathers as measured by the ANS-IE Scale. This finding supports similar research by Newcomb and Svehla (1937) and Troll et al. (1969) who found a stronger relationship between parent-parent than between parent-child belief systems; suggesting that ten or more years of living together has

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[1] This mean was the average of both mother and father scores on the ANS-IE Scale.

a greater effect on belief systems of parents than parents have on their daughter's beliefs.

Fathers' Occupational Self-Direction

As shown previously in Table V, an unexpected negative correlation coefficient (-.14) was found between the fathers' occupational self-direction scores and their daughters' internality scores. As previously noted, the factor loadings on the Index of Occupational Self-Direction (IOS) were very similar to those reported by Kohn (1973). Although it is possible that the IOS is not a valid instrument, it does correlate as expected with the parents' education and internality scores on the ANS-IE Scale and with the fathers' socio-economic level as measured by the Hollingshead Two-Factor Index. These correlations are shown below in Table VI.

TABLE VI

IOS CORRELATES

CORRELATES	INDEX OF OCCUPATIONAL SELF-DIRECTION
Education of mother	-.35**
Education of father	-.36**
Socio-economic level	.47***
I-E score of mother	.27*
I-E score of father	.35**

*p<.10 (two-tailed)
**p<.05) (two-tailed)
***p<.01 (two-tailed)

As this table indicates a man with more self-direction in his work is more likely to have more education, as is his wife, than is a man who has an occupation where he has little chance for self-direction. The man who has an occupation which allows self-direction is also more likely to have a higher socio-economic status, to be more internal and to have a wife whose belief system is more internal.

A possible explanation for the relationship between a father's occupational self-direction and his daughter's externality is that within a limited socio-economic range, a daughter's internal expectancy is little affected by the father's occupation. It might also be hypothesized that factors within the family cushion the impact of occupation variables upon the daughter's expectancy. For example, the severity of punishment used by the father may have a greater impact upon the daughter's internality than does occupational self-direction.

As noted in the literature (e.g. Goodstadt and Hjelle, 1973), individuals who feel powerless are more likely to employ coercive types of control. As previously noted in this study (Baumrind and Black, 1967; Reimanis, 1970, 1971), the severity of punishment employed by the father is often instrumental in promoting a belief in internality in the daughter. Based upon the findings of this study and past research, it can then be hypothesized that the child-rearing practices of the home may mediate the direct effects of the father's occupational self-direction upon internal beliefs in female children.

IV. SUMMARY

The results of this study partially supported three of the hypotheses being considered and resulted in the rejection of the fourth.

While some of the findings were unexpected, a review of the literature indicated that comparable results have been reported by other researchers.

CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY OF RESULTS

This study was designed to investigate the relationship between the internal control expectancy in a sample of female children and four psychosocial variables. Based upon a review of the literature it was determined that this relationship might be confounded by four intervening variables; namely, age, intelligence, birth order and a differential familial environment. It was therefore deemed necessary to control these variables through sampling and/or statistical techniques.

The sample of female children studied were in the middle childhood period of eight and nine years of age, had intelligence scores ranging from 90 to 115 and were from the lower-middle and working classes as measured by their fathers' occupation and education. Because small correlations were obtained between the locus of control expectancies of the children and the following intervening variables, intelligence, birth order and family size and density, it was possible to directly analyze the relationship between the control expectancy and the four psychosocial correlates using correlational analysis. The results of this analysis showed that variables from both the psychological and social environments of the female children were significantly related (at the .05 alpha level and beyond) to their locus of control expectancies.

Psychological System of the Child

In the area of the child's psychological system, the child's

developmental level as measured by the Psychological Causality Scale but not as measured by the Subjective Responsibility Scale was significantly related to the child's control expectancy. This provided some evidence that female children at a higher developmental level are also more likely to have an internal control expectancy. However, it did not unravel a possible causal connection, that is, whether the child must first attain a certain developmental level before she is able to effectively deal with her environment and thereby develop a belief in internality or whether the reverse process holds true. It is equally possible that the two are mutually reinforcing, developing simultaneously. In this area then, the necessary first step is further research to establish more definitively the extent to which these two variables are related, and if related to determine whether a higher developmental level is instrumental in promoting the growth of internality in female children.

Mechanisms of Socialization

In the area of mechanisms of socialization the relationship between characteristics of the family and the child's internal control expectancy were examined. While the term, mechanisms of socialization, suggests a causal relationship from family to child, the relationship might equally be in the opposite direction as outlined in the Psychosocial Model presented in Chapter I and as noted by other researchers (e.g. Bell, 1968; Walters and Stinnett, 1971). Again, a decision as to causal directionality will have to await the application of experimental methodology or longitudinal studies.

The results of this study showed that of the three familial areas studied, parental child-rearing practices, particularly as employed by

the mother, were most often significantly related to the control expectancy of the daughter. The negative relationships found between the father's child-rearing practices, that is, the coerciveness of punishment used and the consistency of disciplinary policy, and the daughter's belief in internality reinforces the findings of other researchers (e.g. Baumrind and Black, 1967, Reimanis, 1970, 1971) that the effects of the father's discipline on girls often results in unexpected findings and "....certainly merits further exploration" (Becker and Krug, 1964, p. 393). On the basis of these findings, the case can be made that the child-rearing practices of both parents should be included in future locus of control research since each parent appears to be instrumental in promoting an internal control expectancy in their female children.

Of the other two variables studied, the belief system of the parents and the occupational self-direction of the father, only the combined internality score of the parents was significantly related to the daughter's internality score. The degree of the father's occupational self-direction was negatively related to the daughter's belief in internality, however a further analysis of the results showed that the fathers with the least self-direction in their jobs were also the dispensers of more severe punishment. In this study, as in other research, it was also noted that female children from homes which are slightly unsupportive and unstable are the ones most likely to have an internal control expectancy. This finding suggests that it is not the father's occupation, per se, but his attitudes and behaviors at home which are responsible for a belief in internality in female children.

Researchers (e.g. Epstein and Komorita, 1971; Seltzer, 1973) point

out that different child-rearing practices and attitudes do occur among families within each socio-economic group. The results of this study appear to support this thesis. The results further suggest that the dynamics within a family may be very instrumental in cushioning the consequences of class membership. As Kamii and Radin (1967) have suggested, social class by itself is not "....a determinant of behavior" (p. 308).

While it is true that significant relationships were obtained between several of the family variables examined and the control expectancies of female children, it is possible that peer group influences play an equally important role in the development of internality. While not downplaying the importance of family research, peer influences might prove fruitful in future studies of locus of control. As a case in point, a subject in the present study whose father was Italian and whose score on the CNS-IE Scale was the most external, appeared to suffer some stigma because of her ethnicity as she reported that she hated being called "WOP" by her peers. It has also been noted in other studies (e.g. K. White, 1972) that negative peer influences appear to change the subjects' locus of control in an external direction.

II. INSTRUMENTATION ANALYSIS

On the basis of this study, it is felt that some instruments utilized may need additional refinement or may be inappropriate for other reasons. One of the instruments utilized, the Subjective Responsibility Scale (SRS), may not be suitable for an eight- and nine-year-old sample from the lower socio-economic classes. Most subjects in this study appeared to be at the second stage of responsibility as postulated by Gutkin (1972), that is, "intentions relevant but damage more important". This stage

restriction may have been responsible for the small correlation obtained between the children's scores on the SRS and the CNS-IE Scales. On the basis of this study then, further research with the SRS with this age and socio-economic group would appear to be warranted.

A second instrument which requires further research is the Index of Occupational Self-Direction (IOS). In this study the fathers' scores on this instrument correlated negatively with the female children's internal control expectancy. A review of the child-rearing results in Chapter IV suggests that this unexpected finding may be attributed to the father's child-rearing practices which may have mediated between his occupational self-direction and his daughter's locus of control expectancy. However, since a positive relationship would be theoretically predicted, it is possible that the IOS is not a valid instrument for studies which have a restricted socio-economic range.

The last instruments which require further research are the Nowicki-Strickland Internal-External Scales. The negative biserial correlations obtained in this study (see Chapter III) suggest that all items are not contributing to a common dimension of internality-externality. In addition, the biserial correlations obtained for the mother and father samples sometimes exceeded unity which suggests that the assumption of normality for the dichotomous variable may not be tenable or possibly the final score distribution is platykurtic or bimodal (McNemar, 1969). An additional difficulty with the reliability of these scales is their internal consistency as measured by the Kuder-Richardson (KR_{20}) formula. For the father and daughter samples, the reliability coefficients were acceptable but for the mother sample the reliability coefficient was only .39. While this does not

necessarily invalidate the instrument (Ferguson, 1971) it does mean that with small samples, only gross differences may be detected. With a larger sample size and/or with an instrument which has a higher internal consistency coefficient, a significant relationship between the control expectancies of mothers and daughters might have been obtained as predicted in hypothesis three.

The literature also suggests that theoretical problems are inherent in most locus of control scales. One problem with most instruments to date is that they are unidimensional, based on Rotter's theory that locus of control is a generalized expectancy which holds for a variety of situations. However, individuals may not have a control expectancy which holds for all possible situations.

Many instruments also have an item content problem. Some items on the NS-IE Scales, for example, are contaminated by "an expectancy-of-success", element: "I feel I can succeed if I try hard enough". This theoretical contamination, plus the considerable heterogeneity of the items as indicated by the Kuder-Richardson correlation coefficients, can lead to confusion when interpreting the data as it is not known whether the reasons for an unsupported prediction is the theory or the poor reliability of the instrument.

Some of the confusion could be eliminated by factor analyzing the locus of control scores to determine whether sufficiently defined factor structures exist to warrant a re-analysis of the data based on several empirically defined factors. Stephens (undated) attempted this with the CNS-IE Scale but the analysis did not yield clearly defined factor scores. Because the sample size was small (40) and because the number of items on

the NS-IE Scales is considerable (40), it was not possible to factor analyze the locus of control scores in this study. However, as some researchers (Levenson, 1973; Mischel, 1973) have noted, future studies which utilize multi-dimensional locus of control instruments might prove more fruitful.

III. SUMMARY

While restricting the sample characteristics of this study prohibits generalizability of the findings to populations with dissimilar characteristics, it does allow one to conclude that there are psychosocial correlates of internality in female children, which are not attributable to such variables as intelligence, birth order, family size or social class. However, to fully understand the dynamics of the relationship between the process of socialization and the locus of control expectancy additional research will be required.

Although problems exist in attempting to define and measure locus of control expectancy, man's perception of control, that is, whether it is attributes of himself or actions initiated by himself which are responsible for the occurrence of events, appears to be an important factor in providing the impetus for man to act. Equally important, however, as Kelley (1973) notes is the appropriateness of man's perceptions. That is, a lower class person who accurately perceives that it is his environment which wields the most control over events in his life will probably be much more effective in dealing with his environment than a person who inappropriately blames himself. When the attributions are accurate, there is a greater likelihood of the person having some success in his decisions and actions. This in turn should result in the individual developing an internal control expec-

tancy. On the other hand, the individual who recognizes that attributes of himself or his environment effectively deny him much success, is less likely to develop feelings of efficacy. In short, there are many questions such as these which require much more investigation and research. At present, perhaps the most that can safely be stated, is that "while much is known, little is understood".

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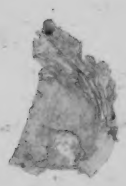

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APPENDIX A

FACULTY OF EDUCATION
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY
TELEPHONE (403) 432-5245

THE UNIVERSITY OF ALBERTA
EDMONTON, CANADA
T6G 2G5

100

February 13, 1974

Dear

I am a graduate student at the University of Alberta interested in studying child development and the modern family. In order to do this, I must talk to a large number of parents as to how they bring up their children. To assist me with this study, the Edmonton Separate School Board as well as , Principal, have kindly consented to allow me to write you about my study and also to request your assistance.

I feel that the information I collect from parents such as yourselves can be of immense assistance in improving our knowledge of family life in Canada. This information can also be used to assist other parents in raising their children. Since we believe this study is very important, we hope that you will consent to help us with it.

For this study, I will be asking you some questions about your way of life and also about your opinions and beliefs. I will also be asking your eight or nine-year-old daughter similar questions about her opinions and beliefs. But before I ask any questions at all, I will be contacting you by phone to ask your cooperation. If you agree to participate in this study, I will arrange a convenient time to meet with you to explain more fully just what is involved in the study. Should you have any questions in the meantime, please feel free to call me at 433-7274.

Your assistance is greatly appreciated and I look forward to talking with you soon.

Sincerely,

Dianne Anderson,
Graduate Student,
University of Alberta.

Professor L.L. Stewin,
Supervisor,
University of Alberta.

CHILDREN'S INTERVIEW SCHEDULE

NAME:_____ SCHOOL:_____

AGE:_____ BIRTHDATE:_____ GRADE:_____

NAME OF PARENTS:_____

ADDRESS:_____

PHONE:_____ RELIGION:_____

FATHER'S OCCUPATION:_____

DATA FROM TEACHERS:

Is another language spoken in the home besides English:_____

If so, which language is spoken:_____

How often is this language spoken:_____

Is the family intact?_____

OTHER COMMENTS:_____

CONVERSION TABLE FOR FAMILY SIZE AND DENSITY INDEX

Total No. of Children		Months to Next Younger		Months to Next Older		Average Months Between Births	
No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
11	572	10	453	10	368	10	385
10	521	11	439	11	359	11	374
9	470	12	424	12	349	12	363
8	419	13	409	13	340	13	353
7	368	14	394	14	331	14	342
6	317	15	379	15	322	15	332
5	266	16	364	16	313	16	321
4	215	17	350	17	304	17	310
3	164	18	335	18	295	18	300
2	113	19	320	19	285	19	289
1	62	20	305	20	276	20	279
		21	290	21	267	21	268
		22	276	22	258	22	258
		23	261	23	249	23	247
		24	246	24	240	24	236
		25	231	25	231	25	226
		26	216	26	222	26	215
		27	202	27	212	27	205
		28	187	28	203	28	194
		29	172	29	194	29	184
		30	157	30	185	30	173
		31	142	31	176	31	163
		32	127	32	167	32	152
		33	112	33	158	33	141
		34	98	34	149	34	131
		35	83	35	139	35	120
		36	68	36	130	36	110
		37	53	37	121	37	99
		38	38	38	112	38	89
		39	23	39	103	39	78
		40	8	40	94	40	68
		(or more)		41	85	41	57
				42	75	42	46
				43	66	43	36
				44	57	44	25
				45	48	45	15
				46	39	46	4
				47	30	(or more)	
				48	21		
				(or more)			

No. of Children..... _____
Mos. to next youngest.. _____
Mos. to next oldest.... _____
Av. mos. between births _____

Sum or Index Score _____

(M = 83.7 σ = 27.67)

APPENDIX B

PRACTICE STORY #1

Jane went to the school library to get a book for her teacher. She checked the book out and started back to the classroom. As Jane opened the classroom door, a girl was passing by with jars of finger paint. Jane did not know that she was behind the door. The door hit her arm, the jars fell out of her hands, and finger paint spilled all over the floor.

PRACTICE STORY #2

Jane was tickling one of the boys while the teacher was not looking during their reading lesson. The boy turned around, and Jane jerked her hand back. Her elbow hit a small jar of water; it tipped and spilled on the floor.

IN THIS STORY JANE WAS:

3 Very bad

2 Bad

1 Not really bad

0 Not bad at all

CANDY STORY #1

Jane's mother was saving a big box of candy for a party, but Jane didn't know this. One day when her mother went shopping, her aunt and uncle and their four children came over. Since the candy box was on the living room table where they could see it, Jane thought it would be polite to give them some candy. Her aunt's children ate half the box of candy while their parents weren't looking and Jane ate ten pieces of candy.

CANDY STORY #2

Jane's mother was saving a big box of candy for a party, and she told Jane this. One day when her mother went shopping, Jane opened the box and ate ten pieces of candy.

CANDY STORY #3

Jane's mother was saving a big box of candy for a party, but Jane didn't know this. One day when her mother went shopping, her grandmother came over. Her grandmother asked her if she could have candy, since she saw the box on the living room table. Jane took the box to her grandmother. Her grandmother ate one piece of candy and Jane ate one piece.

CANDY STORY #4

Jane's mother was saving a big box of candy for a party, and she told Jane this. One day when her mother went shopping, Jane took one piece of candy and ate it.

SRS

APPLES STORY #1

Jane and her friends have not had any lunch yet and it's already one o'clock in the afternoon. They are out on a hike and pass by a fruit stand that a farmer has set up by the roadside. The farmer is not there. Jane sees a sign saying, "Apples, 10 cents each." She has enough money to buy an apple for each of her four friends and herself. Jane leaves the right amount of money on the counter, takes an apple for each of her four friends, and takes one for herself.

APPLES STORY #2

Jane and her friends have not had any lunch yet and it's already one o'clock in the afternoon. They are out on a hike and they pass by a fruit stand that a farmer has set up by the roadside. The farmer is not there. Jane sees a sign saying, "Apples, 10 cents each." She has enough money to buy only one apple, and she has four hungry friends with her. She tells her friends that they can pay the farmer back the next day when they come by there again. Jane leaves her 10 cents on the counter, takes one apple for each of her four friends, and takes one for herself.

APPLES STORY #3

Jane and her friends have just eaten a picnic lunch. They are out on a hike and they pass by a fruit stand that a farmer has set up by the roadside. The farmer is not there. Jane sees a sign saying, "Apples, 10 cents each." She has enough money to buy an apple for each of her four friends and herself. But she says to her friends, "That price is too high and the farmer isn't around anyway, so let's just

take some apples." Jane takes an apple for each of her four friends and one for herself.

APPLES STORY #4

Jane and her friends have just eaten a picnic lunch. They are out on a hike and they pass by a fruit stand that a farmer has set up by the roadside. The farmer is not there. Jane sees a sign saying, "Apples, 10 cents each." She has enough money to buy an apple for each of her four friends and herself. But she says to her friends, "That price is too high and the farmer isn't around anyway, so let's take some apples." Jane is the only girl who wants an apple, so she takes one.

SRS

HIGH HEELS STORY #1

One day Jane was babysitting for her four-year-old sister. Jane didn't want to babysit for her little sister. She thought she might as well have some fun while her mother was out, so she walked around in her mother's high heeled shoes and let her little sister walk in high heels all by herself. Her sister fell and broke her ankle.

HIGH HEELS STORY #2

One day Jane was babysitting for her four-year-old sister. She thought it would be fun to walk around in her mother's high heeled shoes. Jane was holding her little sister's hand while both of them were walking in high heeled shoes, but her sister fell and hurt her ankle a little bit.

HIGH HEELS STORY #3

One day Jane was babysitting for her four-year-old sister. Jane didn't want to babysit for her little sister. She thought she might as well have some fun while her mother was out, so she walked around in her mother's high heeled shoes and let her little sister walk in high heels all by herself. Her sister fell and hurt her ankle a little bit.

HIGH HEELS STORY #4

One day Jane was babysitting for her four-year-old sister. She thought it would be fun to walk around in her mother's high heeled shoes. Jane was holding her little sister's hand while both of them were walking in high heeled shoes, but her sister fell and broke her ankle.

STREETS STORY #1

Jane knows the names of the streets very well. One day a man comes to Jane and asks her where Jasper Avenue is. Jane feels like playing a trick on him, so she gives him wrong directions. Fortunately the man doesn't remember Jane's directions well enough and asks somebody else how to get to Jasper Avenue. He gets there on time.

STREETS STORY #2

Jane doesn't know the names of the streets very well. One day a man comes to Jane and asks her where Jasper Avenue is. Jane thinks she knows where it is, so she gives the man directions, but Jane really doesn't know enough about how to get there. The man follows her directions and really gets lost.

STREETS STORY #3

Jane knows the names of the streets very well. One day a man comes to Jane and asks her where Jasper Avenue is. Jane feels like playing a trick on him, so she gives him wrong directions. The man follows the wrong directions and really gets lost.

STREETS STORY #4

Jane doesn't know the names of the streets very well. One day a man comes to Jane and asks her where Jasper Avenue is. Jane thinks she knows where it is, so she gives the man directions, but Jane really doesn't know enough about how to get there. Fortunately, the man doesn't remember Jane's directions well enough and asks somebody else how to get to Jasper Avenue. He gets there on time.

SRS RECORD SHEET

NAME:_____ DATE:_____

INTERVIEWER:_____ LOCATION:_____

(Circle one)

STORY 1: Candy Story High Heels Story Apples Story Streets Story

Variation 1:__ Variation 2:__ Variation 3:__ Variation 4:__

STORY 2: Candy Story High Heels Story Apples Story Streets Story

Variation 1:__ Variation 2:__ Variation 3:__ Variation 4:__

STORY 3: Candy Story High Heels Story Apples Story Streets Story

Variation 1:__ Variation 2:__ Variation 3:__ Variation 4:__

STORY 4: Candy Story High Heels Story Apples Story Streets Story

Variation 1:__ Variation 2:__ Variation 3:__ Variation 4:__

PCS

INSTRUCTIONS

"I'm going to tell you some stories about a little girl called Jane. In each of these stories Jane does something different from what she usually does. I want you to tell me why she did it. Here's the first story."

ICE CREAM STORY

"One day Jane's mother promised that Jane's favourite dessert, ice cream, would be served at supper. But Jane's mother forgot to buy the ice cream, and so there wasn't any ice cream for dessert. Jane didn't say anything to her mother about the ice cream. After supper Jane went to play with her dolls and did something she had never done before. She spanked her dolls. Why did she spank her dolls?"

POSSIBLE PROBES

Jane's mother forgot the ice cream. Did that have anything to do with Jane's spanking the dolls or not?

Why did Jane spank the dolls (If she didn't get any ice cream?) (If she was mad at her mother?)

What did Jane feel when her mother forgot the ice cream?

Would you say she felt mad or happy or neither mad nor happy?

Whom was she mad at?

If she spanked the dolls, would they spank her back? If she spanked her mother, would her mother spank Jane back? Then why did Jane spank the dolls?

PCS

BABY BROTHER STORY

"One day Jane didn't feel well. She had a headache and didn't want to eat. She began to act just like her baby brother. She talked baby talk; she wanted to suck her baby brother's milk bottle; and she even wanted to be held in her mother's arms just like a baby. Why did she act this way?"

POSSIBLE PROBES

Jane wasn't feeling well. Did that have anything to do with her acting like a baby? (If yes) Why did that make her act like a baby?

(If no) If Jane were sick and acted like a baby, would her mother treat her differently than when she's well?

If Jane were sick and treated like a baby, would Jane like that or not? (If yes) Why would she like it?

PCS

GLOVES STORY

"One day Jane's mother bought Jane a new pair of gloves. She warned Jane not to lose the gloves, because Jane had lost the last pair. One afternoon Jane lost her gloves coming back from school. She knew she had to tell her mother. But when she got home, she forgot to tell her. When Jane went out to play in the afternoon, she told her friends about the lost gloves. But that night she forgot to tell her mother. The next morning at breakfast Jane again forgot to tell her mother. Why did she keep forgetting to tell her mother about the lost gloves?"

POSSIBLE PROBES

What would Jane's mother do if she were told?

What would Jane's friends do?

SPINACH STORY

"One day Jane's mother gave her a big bowl of spinach. Jane said, 'I'm not going to eat the spinach because it makes you very fat!' Why did Jane say that about the spinach when she liked to eat fattening things like ice cream and candy?"

POSSIBLE PROBES

Did Jane really think that spinach makes you very fat, or did she just make believe; did she just say that?

Why did she have to talk about getting fat?

BIRTHDAY PARTY STORY

"Jane wanted very much to go to her friend's birthday party. On the day of the party she fell sick and couldn't go. But Jane said, 'I didn't want to go to that party anyway!' Why did Jane say that?"

POSSIBLE PROBES

Did Jane's being sick have anything to do with her saying that she didn't want to go to that party anyway?

(If yes) What did that have to do with it?

(If no) Why did she say she never wanted to go to the party after she fell sick?

PCS RECORD SHEET

NAME: _____ DATE: _____

INTERVIEWER: _____ LOCATION: _____

STORY TITLE: (Number) _____ Ice cream, _____ Baby Brother,
_____ Gloves, _____ Spinach, _____ Birthday Party

STORY 1: _____
_____
_____

STORY 2: _____
_____
_____

STORY 3: _____
_____
_____

STORY 4: _____
_____
_____

STORY 5: _____
_____
_____

INSTRUCTIONS

This is not a test. I am just trying to find out how kids your age think about certain things. I am going to ask you some questions to see how you feel about these things. There are no right or wrong answers to these questions. Some kids say "Yes" and some say "No". When I ask the question, if you think your answer should be yes, or mostly yes, say "Yes". If you think the answer should be no, or mostly no, say "No". Remember, different children give different answers, and there is no right or wrong answer. Just say "Yes" or "No", depending on how you think the question should be answered. If you want me to repeat a question, ask me. Do you understand? All right, listen carefully, and answer "Yes" or "No".

1. Do you believe that most problems will solve themselves if you just don't fool with them?
2. Do you believe that you can stop yourself from catching a cold?
3. Are some kids just born lucky?
4. Most of the time do you feel that getting good grades means a great deal to you.
5. Are you often blamed for things that just aren't your fault?
6. Do you believe that if somebody studies hard enough he or she can pass any subject?
7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?
9. Do you feel that most of the time parents listen to what their children have to say?
10. Do you believe that wishing can make good things happen?

11. When you get punished does it usually seem its for no good reason at all?

12. Most of the time do you find it hard to change a friend's (mind) opinion?

13. Do you think that cheering more than luck helps a team to win?

14. Do you feel that it's nearly impossible to change your parent's mind about something?

15. Do you believe that your parents should allow you to make most of your own decisions?

16. Do you feel that when you do something wrong there's very little you can do to make it right?

17. Do you believe that most kids are just born good at sports?

18. Are most of the other kids your age stronger than you are?

19. Do you feel that one of the best ways to handle most problems is just not to think about them?

20. Do you feel that you have a lot of choice in deciding who your friends are?

21. If you find a four leaf clover do you believe that it might bring you good luck?

22. Do you often feel that whether or not you do your homework has much to do with what kind of grades you get?

23. Do you feel that when a kid your age decides to hit you, there's little you can do to stop him or her?

24. Have you ever had a good luck charm?

25. Do you believe that whether or not people like you depends on how you act?

26. Will your parents usually help you if you ask them to?

27. Have you felt that when people were mean to you it was usually for no reason at all?

28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?

29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?

30. Do you think that kids can get their own way if they just keep trying?

31. Most of the time do you find it useless to try to get your own way at home?

32. Do you feel that when good things happen they happen because of hard work?

33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?

34. Do you feel that it's easy to get friends to do what you want them to?

35. Do you usually feel that you have little to say about what you get to eat at home?

36. Do you feel that when someone doesn't like you there's little you can do about it?

37. Do you usually feel that it's almost useless to try in school because most other children are just plain smarter than you are?

38. Are you the kind of person who believes that planning ahead makes things turn out better?

39. Most of the time, do you feel that you have little to say about what your family decides to do?

40. Do you think it's better to be smart than to be lucky?

NS-IE RECORD SHEET

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
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11. _____
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37. _____
38. _____
39. _____
40. _____

MOTHER'S INTERVIEW SCHEDULE

1. Have you worked in the past nine years?_____

   If so, how many years during your daughter's preschool years did you work?_____

2. How many children do you have?_____

	SEX	BIRTHDATE Day/Month/Year		SEX	BIRTHDATE Day/Month/Year
(1)	_____	_____	(5)	_____	_____
(2)	_____	_____	(6)	_____	_____
(3)	_____	_____	(7)	_____	_____
(4)	_____	_____	(8)	_____	_____

3. What is your educational background?

   Grade eight or less _____

   Some high school _____

   Complete grade twelve _____

   College/Technical training _____

4. When your daughter was born, how old were you?

   48+ _____

   40 - 47 _____

   32 - 39 _____

   24 - 31 _____

   15 - 23 _____

FATHER'S INTERVIEW SCHEDULE

1. How closely does the man who has the most control over what you do on the job supervise you:

   He decides both what you do and how you do it _____

   He decides what you do, but you decide how you do it _____

   You have some freedom in deciding what you do and how you do it _____

   You are your own boss within general policies _____

   Other (specify)_____ _____

   Don't know _____

2. When he wants you to do something, does he usually just tell you to do it, does he usually discuss it with you, or is it about half and half? (If respondent says that he knows what to do, so boss doesn't have to tell him, check box and ask: How about when something unusual comes up?) ☐

   Usually just tells me _____

   Usually discusses it _____

   Half and half _____

   Other (specify)_____ _____

   Don't know _____

3. How free do you feel to disagree with him--completely free, largely but not completely free, moderately free, or not free at all?

   Completely free _____

   Moderately free _____

   Not at all free _____

   Don't know _____

4. Is the speed at which you work controlled mostly by you, your boss, your work group, the speed of machinery with which you work, or what? (Check all that apply.)

Yourself _____

Your boss _____

Your work group _____

The speed of machinery _____

The amount of work to be done or volume of business _____

Other (specify)_____ _____

One thing we'd like to be able to pin down particularly accurately is how much of your working time is spent reading and writing, how much working with your hands, and how much dealing with people. We realize, of course, that you can be doing two or even all three of these at the same time. (Note: When two or all three of these are done simultaneously, count each one, each time.)

5. First--reading or writing. Here we should like to include any type of written material--letters, files, memos, books or blueprints. About how many hours a week do you spend reading, writing, dictating, or dealing with any kind of written materials on your job?

Hours a week_____

(Hours per week, if none, skip to question 6.)

If any time at all is spent reading and writing, what do you do?

_____

_____

What is the subject matter?_____

_____

6. Second--working with your hands, using tools, using or repairing machines. We should like to include everything that involves working with your hands--operating a lathe or a dentist's drill, moving furniture, playing the piano. About how many hours a week do you spend working with your hands on your job?

Hours a week_____

(Hours per week, if none, skip to question 7.)

If any time at all, what do you do? (That is, what operations do you perform?)_____

_____

What materials do you work on?_____

What tools or equipment do you use?_____

_____

(If relevant) What do you do to set up and maintain your equipment?

_____

7. Third--dealing with people. Here we do not mean to include passing the time of day, but only conversations necessary for the job: for example, talking to your boss, teaching, supervising, selling, advising clients. About how many hours a week does your job require you to spend dealing with people?

Hours a week_____

(Hours per week, if none, skip to question 8.)

If any time at all, what kinds of things do you do--do you teach students, supervise subordinates, receive instructions from the boss, sell to customers, advise clients, discuss the work with co-workers, or what? (Be sure to ascertain what he does and to whom.)

_____

_____

If more than one such activity, - at which one of these do you spend the most time?_____

8. Which of these three--working with written materials, working with your hands, or dealing with people--is the most important for doing your job?

_____

Unless two are equally important--What's the second most important?

_____

9. A. Does your work involve doing the same thing in the same way repeatedly or the same kind of thing in a number of different ways, or do you do a number of different kinds of things?

Same thing in the same way _____

The same kind of thing in different ways _____

Different kinds of things (Ask B) _____

Other (specify)_____ _____

Don't know _____

B. When you begin your day's work, can you predict what kinds of things are going to happen on the job that day, or is it a job in which you can't tell what may come up?

Can predict exactly _____

Can generally predict well _____

Can predict only moderately well _____

Hard to predict _____

Can't predict at all _____

Don't know _____

10. What it takes to do a complete job varies a great deal from occupation to occupation. To a worker on an assembly line a complete job may be to tighten two or three bolts; to an auto mechanic a complete job is to repair a car; to a coal miner, a complete job may be to load 18 tons.

What do you ordinarily think of as a complete job in your occupation? (Probe: What do you have to do in order to feel that you've finished a piece of work? Do you ever feel that you've finished? At what point?)

_____

_____

How long does it take you to do a complete job? (If it varies: What is the range of variation?)

_____

_____

11. The name of your job is _____

12. How many hours per week do you work at your job? _____

How are you paid for each of your jobs? (e.g. hourly wages, as salary, be piecework, profits, overtime, fees, tips, commissions, bonuses, housing, other benefits, etc.)

_____

13. What is your educational background?

Grade eight or less _____

Some high school _____

Complete grade twelve _____

College/Technical training _____

14. When your daughter was born, how old were you?

48+ _____

40 - 47 _____

32 - 39 _____

24 - 31 _____

15 - 23 _____

ANS-IE

INSTRUCTIONS

This is a questionnaire to find out the way in which certain important events in our society affect different people. Items are answered "Yes" or "No". If you think that an item is mostly yes, answer "Yes", and if you think an item is mostly no, answer "No".

This is a measure of personal belief; obviously there are no right or wrong answers.

1. Do you believe that most problems will solve themselves if you just don't fool with them?
2. Do you believe that you can stop yourself from catching a cold?
3. Are some people just born lucky?
4. Most of the time did you feel that getting good grades meant a great deal to you?
5. Are you often blamed for things that just aren't your fault?
6. Do you believe that if somebody studies hard enough he or she can pass any subject?
7. Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway?
8. Do you feel that if things start out well in the morning that it's going to be a good day no matter what you do?
9. Do you feel that most of the time parents listen to what their children have to say?
10. Do you believe that wishing can make good things happen?
11. When you used to get punished, did it seem to be for no good reason at all?
12. Most of the time do you find it hard to change a friend's (mind) opinion?
13. Do you think that cheering more than luck helps a team to win?
14. Did you feel that it was nearly impossible to change your parents' mind about something?

15. Do you believe that parents should allow children to make most of their own decisions?

16. Do you feel that when you do something wrong there's very little you can do to make it right?

17. Do you believe that most people are just born good at sports?

18. Are most of the other people your age stronger than you are?

19. Do you feel that one of the best ways to handle most problems is just not to think about them?

20. Do you feel that you have a lot of choice in deciding whom your friends are?

21. If you find a four leaf clover, do you believe that it might bring you good luck?

22. Did you feel that whether or not you did your homework had much to do with what kind of grades you got?

23. Do you feel that when a person your age is angry with you, there's little you can do to stop him or her?

24. Have you ever had a good luck charm?

25. Do you believe that whether or not people like you depends on how you act?

26. Did your parents usually help you if you asked them to?

27. Have you felt that when people were angry with you it was usually for no reason at all?

28. Most of the time, do you feel that you can change what might happen tomorrow by what you do today?

29. Do you believe that when bad things are going to happen they just are going to happen no matter what you try to do to stop them?

30. Do you think that people can get their own way if they just keep trying?

31. Most of the time did you find it useless to try to get your own way at home?

32. Do you feel that when good things happen they happen because of hard work?

33. Do you feel that when somebody your age wants to be your enemy there's little you can do to change matters?

34. Do you feel that it's easy to get friends to do what you want them to do?

35. Did you usually feel that you had little say about what you get to eat at home?

36. Do you feel that when someone doesn't like you there's little you can do about it?

37. Did you usually feel that it was almost useless to try in school because most other children were just plain smarter than you were?

38. Are you the kind of person who believes that planning ahead makes things turn out better?

39. Most of the time, did you feel that you had little to say about what your family decided to do?

40. Do you think it's better to be smart than to be lucky?

INSTRUCTIONS

We are interested in knowing how a father/mother handles situations that come up when his/her wife/husband is not around. I'm going to read some situations in which your daughter might or might not really have been involved. Imagine that this situation has arisen and that your wife/husband is not around and you must handle the problem yourself.

You will find that there are three variations of each story and each story varies only slightly. I'm interested in knowing if you would react differently to each situation. Some of these situations have probably never occurred and may never occur but I would like you to imagine that they did happen. But if there's absolutely no way your daughter would be involved in such an event, just say so.

INSTRUCTIONS FOR JOINT INTERACTION SESSION

You have talked about how you would handle these various situations if you were alone; now I would like to go through these situations again, and have you discuss them and come to some agreement as to how you would handle the problem if you are both at home and must deal with the situation. I want you to continue the discussion until you can come to some agreement on how you would handle the problem if you were together.

APPLES STORY #1

It's one o'clock in the afternoon, and _____ and her friends are out on a hike. They have not had any lunch yet. They pass by a fruit stand that a farmer has set up by the roadside. The farmer is not there. _____ sees a sign saying, "Apples 10 cents each." She has enough money to buy an apple for each of her four friends and herself. _____ leaves the right amount of money on the counter, takes one apple for each of her four friends, and takes one for herself.

APPLES STORY #2

In this story, it is one o'clock in the afternoon and _____ and her friends have not had any lunch yet. They are on a hike and pass by a fruit stand. The farmer is not around. A sign says, "Apples 10 cents each." _____ has enough money to buy only one apple, and she has four hungry friends with her. She tells her friends that they can pay the farmer back the next day when they come by there again. _____ leaves her 10 cents on the counter, takes one apple for each of her four friends and takes one for herself.

APPLES STORY #3

In this situation, _____ and her friends have just eaten a picnic lunch. They are on a hike and pass by a fruit stand. The farmer is not there but a sign says "Apples, 10 cents each." _____ has enough money to buy five apples but she says, "That price is too high and the farmer isn't around anyway, so let's just take some apples." _____ takes an apple for each of her four friends and one for herself.

STREETS STORY #1

_____ knows the names of the streets very well. One day a young child comes to _____ and asks her how to find a certain address. _____ feels like playing a trick, so she directs the child the wrong way. Fortunately, the child asks someone else and doesn't get lost.

STREETS STORY #2

In this situation, _____ doesn't know the names of the streets very well. One day a young child comes to her and asks how to find a certain address. Since _____ thinks she knows where it is, she gives the child some directions. Actually, she sends the child in the wrong direction and the child really gets lost.

STREETS STORY #3

In this situation, _____ knows the names of the streets very well. When a young child comes to _____ and asks her how to find an address, _____ feels like playing a trick on the child so she gives him wrong directions. The child follows the wrong directions and really gets lost.

HIGH HEELS STORY #1

In this situation, _____ had to babysit for a short time for her four-year-old cousin. This made her very angry. For revenge, she decided to do something she knew her mother wouldn't like--she let her cousin walk in her mother's high heeled shoes all by herself. Her cousin fell and broke her ankle.

HIGH HEELS STORY #2

Again, _____ has to babysit for a short time for her cousin. This angers her. For revenge, she decides to do something her mother would not approve of--she lets her cousin walk in high heels all by herself. Her cousin falls and hurts her ankle a bit.

HIGH HEELS STORY #3

In this situation, _____ had to babysit for a short time for her four-year-old cousin. For something to do, she thought it would be fun to walk around in her mother's high heeled shoes. She was holding her cousin's hand while both of them were walking in the high heeled shoes, but her cousin fell and broke her ankle.

CANDY STORY #1

Your wife was/You were saving a big box of candy for a party, but didn't tell _____ this. One day, when your wife/you went shopping _____ aunt and uncle and their four children came over. Since the candy box was on the living room table where they could see it, _____ thought it would be polite to give them some candy. Her aunt's children ate half the box of candy while their parents weren't looking and _____ ate ten pieces of candy.

CANDY STORY #2

Your wife was/You were saving a big box of candy for a party, and she/you told _____ this. One day when your wife/you went shopping, _____ opened the box and ate ten pieces of candy.

CANDY STORY #3

Your wife was/You were saving a big box of candy for a party, and she/you told _____ this. One day when your wife/you went shopping, _____ took one piece of candy and ate it.

APPENDIX C

SCORING THE SUBJECTIVE RESPONSIBILITY SCALE

INTENT JUDGMENT QUOTIENT

The IJQ was derived to show the extent to which a given S was basing his naughtiness ratings on the intent of a central character. The IJQ consisted of the product of two ratios:

$$IJQ = \frac{(\Sigma R_{gl} + \Sigma R_{gh})}{(\Sigma R_{bl} + \Sigma R_{bh})} \cdot \frac{(\Sigma R_{gh} + \Sigma R_{bh})}{(\Sigma R_{gl} + \Sigma R_{bl})}$$

The first ratio consisted of the sum of ratings assigned to all story variations involving good intent divided by the sum of ratings assigned to all story variations involving bad intent (gl = good intent-light damage; gh = good intent-heavy damage; bl = bad intent-light damage; bh = bad intent-heavy damage; ΣR = sum of ratings). If a S's ratings were determined solely by damage, the value of the first ratio would be unity. If, on the other hand, ratings were affected by intent, then the ratio would be less than 1. The greater the importance of intent, the lower the numerical value of the ratio.

The second ratio consisted of the sum of ratings assigned to all story variations involving heavy damage divided by the sum of ratings assigned to all story variations involving light damage. Here again, if judgment were determined solely by intent, the expected value of the ratio would be unity. If damage were the main determinant of ratings, the value of the ratio would exceed unity. The greater the role of damage, the higher the value of the ratio.

For a S who was basing his rating on intent, the product of these two ratios would be less than 1. The product would be approximately equal to 1 if S gave equal weights to intent and damage, and it would be greater than 1 if he gave greater weight to damage than to intent. In other words, the magnitude of the IJQ was inversely related to the extent to which a S based his judgments on the intent of a central story character (Hebble, 1971, p. 1207).

SCORING PROCEDURE FOR PSYCHOLOGICAL CAUSALITY STORIES

"Each story was coded according to the degree in which the motivation of the child in the story situation was grasped. Thus, in the displacement story, the highest score was given to the children who attributed the spanking of the doll to the ice cream deprivation, who spontaneously or in response to probes cited an appropriate emotional reaction to the ice cream deprivation, that is, being mad or sad, and had some psychological explanation for spanking the doll rather than the mother. A lower score was assigned to sequences which related the ice cream deprivation to the spanking, but offered no psychological reason for spanking the doll rather than the mother. At a lower level, the spanking was conceived as the doll's fault, with no apprehension of the possible causal role of the ice cream incident. Thus, the doll was conceived as bad or dirty or ugly or jumping too much."

Whiteman, 1967, pp. 146-147.

The Motivation Index is a composite index of the scores on the five stories. The child is given credit for a response if it is correct spontaneously or follows an indirect probe. The scoring procedure is outlined below:

Score	Answer
5	Initial response contained all elements of the concept. e.g. Birthday Party Story: "She knew she was sick and she did want to go. Happens to me. She knew she couldn't go anyway."
4	Initial response does not contain all elements of the concept but responses to probes show understanding of the whole concept. e.g. Glove's Story: Mother had warned her. Probe: Mother would be mad and her friends would help her look.
3	Initial response contains at least one element of the concept, but not the whole concept even though responses to further questions show confusion or loss of initial understanding. e.g. Spinach Story: She didn't like spinach. Probe: I like spinach.

Score	Answer
2	Initial response contains no elements of the concept but responses to further questions show some understanding of the concept (responses contain at least one element of the concept). e.g. Spinach Story: Spinach is good. Probe: Spinach would not make you fat.
1	Initial response contains no elements of the concept and further questions elicit no understanding. e.g. Gloves Story: She had something else on her mind. Probe: Told her friends as she had nothing else on her mind.

NS-IE SCALE SCORING SHEET

		Score			Score
1.	Y		21.	Y	
2.	N		22.	N	
3.	Y		23.	Y	
4.	N		24.	Y	
5.	Y		25.	N	
6.	N		26.	N	
7.	Y		27.	Y	
8.	Y		28.	N	
9.	N		29.	Y	
10.	Y		30.	N	
11.	Y		31.	Y	
12.	Y		32.	N	
13.	N		33.	Y	
14.	Y		34.	N	
15.	N		35.	Y	
16.	Y		36.	Y	
17.	Y		37.	Y	
18.	Y		38.	N	
19.	Y		39.	Y	
20.	N		40.	N	

TOTAL SCORE: _____

NOTE: The letter "Y" following a number indicates that an answer of "Yes" is scored 1. The letter "N" signifies that an answer of "No" is scored 1. To determine the total scores all the 1's are summed. This score indicates the external score of the individual and could range from 0 to 40.

FATHER'S INTERVIEW CODING SHEET

DEGREE OF SUPERVISION

The index of closeness of supervision is a scale based on four questions measuring the amount of latitude men's supervisors allow them and on the amount of supervisory control each worker is able to exercise.

Score	
	QUESTION: How closely does the man who has the most control over what you do on the job supervise you?
4	He decides both what you do and how you do it.
3	He decides what you do, but you decide how to do it.
2	You have some freedom in deciding what you do and how you do it.
1	You are your own boss within general policies.
1	Other (specify) _____
0	Don't know.
	QUESTION: When he wants you to do something, does he:
4	Usually just tells you.
3	Half and half.
2	Usually discusses it.
1	Other (specify) _____
0	Don't know.
	QUESTION: How free do you feel to disagree with him?
1	Completely free.
2	Moderately free.
3	Not at all free.
0	Don't know.

Score	
	QUESTION: Is the speed at which you work controlled?
1	Mostly by you.
2	The amount of work to be done or volume of business.
2	The speed of the machinery.
3	Your work group.
4	Your boss.

SUBSTANTIVE COMPLEXITY OF WORK

This index is based on a detailed inquiry about what men do and how much time is spent working with written material, with one's hands and with people.

	Nature of the work
(Number of hours)	Number of hours spent per week working with written materials.
9	Does not work with data
8	Reading Instructions: Following written instructions, generally of a simple and highly specific nature.
7	Comparing: Judging the readily observable functional, structural, or compositional characteristics (whether similar to or divergent from obvious standards) of data, people, or things.
6	Copying: Transcribing, entering, or posting data.
5	Computing: Performing arithmetic operations and reporting on and/or carrying out a prescribed action in relation to them. Does not include counting.
4	Compiling: Gathering, collating, or classifying information about data, people, or things. Reporting and/or carrying out a prescribed action in relation to the information is frequently involved. Applying routine standard tests to determine conformance to specifications. Reporting and/or

4 carrying out prescribed actions to attain specifications called for by tests may also be involved. Examples are routine testing, checkout and troubleshooting of circuits, mechanical units, and subsystems; drafting plans and blueprints from sketches; fabrication from blueprints; and scheduling events within known conditions. Does not involve fundamental changes of input and output.

3 Analyzing: Examining and evaluating data. Presenting alternative actions in relation to the evaluation is frequently involved. Examples are evaluating items for purchase; exploring modifications and adaptations of existing designs and testing them; carrying out feasibility studies of revised inputs, including developing new tests or extending range of old ones.

2 Coordinating: Determining time, place, and sequence of operations or action to be taken on the basis of data; executing determinations and/or reporting on events. Deciding whether emerging performance and/or problems call for new goals, policies, or procedures.

1 Synthesizing: Integrating analyses of data to discover facts and/or develop knowledge concepts, or interpretations. Conceiving new approaches to problems, including their restatement; discovering new facts and relationships; inventing new devices; creating original works of art; or reinterpreting existing information and ideas.

(Number of hours) Number of hours spent working with hands.

9 Does not work with hands.

8 Handling: Using body members, hand tools, and/or special devices to work, move, or carry objects or materials. Involves little or no latitude for judgment with regard to attainment of standards or in selecting appropriate tool, object, or material. Examples include situations that involve a small number of special tools obvious as to purpose, such as a broom, a special purpose end wrench, a grass shear, go/no-go gauges. Dimensional precision can vary from rough to fine, being built into the structure of the task(s).

Nature of the work

7 Feeding-Offbearing: Inserting, throwing, dumping, or placing materials in or removing them from machines or equipment which are automatic or tended or operated by other workers. Repetitive short duration work actions are usually paced by the machine. The standards depend on the existence of appropriate controls in the machine.

6 Tending: Starting, stopping, and observing the functioning of machines and equipment. Involves adjusting materials of controls of the machines, such as changing guides, adjusting timers and temperature gauges, turning valves to allow flow of materials, and flipping switches in response to lights. Little judgment is involved in making these adjustments.

5 Manipulating: Using body members, tools, or special devices to work, move, guide, or place objects or materials. Involves some latitude for judgment with regard to precision attained and selecting appropriate tool, object, or material, although this is readily manifest.

4 Driving-Operating: Starting, stopping, and controlling the actions of machines or equipment for which a course must be steered, or which must be guided, in order to fabricate, process and/or move things or people. Involves such activities as observing gauges and dials; estimating distances and determining speed and direction of other objects; turning cranks and wheels; pushing clutches or brakes; and pushing or pulling gear lifts or levers. Includes such machines as cranes, conveyor systems, tractors, furnace charging machines, paving machines, and hoisting machines. Excludes manually powered machines such as handtrucks and dollies, and power assisted machines such as electric wheelbarrows and handtrucks.

3 Operating-Controlling: Starting, stopping, controlling, and adjusting the progress of machines or equipment designed to fabricate and/or process objects or materials. Operating machines involves setting up the machine and adjusting the machine or material as the work progresses. Controlling equipment involves observing gauges, dials, etc., and turning valves and other devices to control such factors as temperature, pressure, flow of liquids, speed of pumps, and reactions of materials. Several variables are involved and adjustment is more frequent than in tending.

Nature of the work

2	Precision Working: Using body members and/or tools or work aids to work, move, guide, or place objects or materials in situations where ultimate responsibility for the attainment of standards occurs and selection of appropriate tools, objects, or materials, and the adjustment of the tool to the task require exercise of considerable judgment.
1	Setting Up: Adjusting machines or equipment by repacing or altering tools, jigs, fixtures, and attachments to prepare them to perform their functions, change their performance, or restore their proper functioning if they break down. Workers who set up one or a number of machines for other workers or who set up and personally operate a variety of machines are included here.
(Number of hours)	Number of hours spent working with people.
10	Does not work with people.
9	Receiving Instructions-Helping: Attending to the work assignment instructions or orders of supervisors. (No immediate response required unless clarification of instruction or order is needed.) Helping applies to "non-learning" helpers.
8	Serving: Attending to the needs or requests of people or animals or the expressed or implicit wishes of people. Immediate response is involved.
7	Speaking-Signaling: Talking with and/or signaling people to convey or exchange information. Includes giving assignments and/or directions to helpers or assistants.
6	Persuading: Influencing others in favour of a product, service or point of view.
5	Diverting: Amusing others.
4	Supervising: Determining or interpreting work procedures for a group of workers, assigning specific duties to them, maintaining harmonious relations among them, and promoting efficiency.
3	Instructing: Teaching subject matter to others, or training others (including animals) through explanation, demonstration, and supervised practice; or making recommendations on the basis of technical disciplines.

2 Negotiating: Exchanging ideas, information, and opinions with others to formulate policies and programs and/or arrive jointly at decisions, conclusions, or solutions.

1 Mentoring: Dealing with individuals in terms of their total personality in order to advise, counsel, and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual and/or other professional principles.

Overall complexity of the job (based on job complexity of questions 5, 6, and 7).

1 Not at all complex. Altogether routine and takes no thought. Individual can daydram and still perform his work satisfactorily.

2 Minimal thought. A certain degree of attention is required; for example, to keep from getting hands caught in machinery, to be certain to pick up the right pieces, to remember where something was put. But no planning, scheduling, calculating, or prolonged thought is required.

3 Simple measurements, scheduling or activities, or rudimentary planning may be required, but most or all considerations are readily apparent and predictable and not very many considerations are needed for any decision.

4 Problem-solving, involving relatively simple remedies for unforeseen circumstances and/or the application of some practical or technical knowledge (not theoretical, but the type known to an experienced practitioner of the trade) to a typical situation. Does not extend to very complex problems requiring much originality, theoretical knowledge, or foresight.

5 Problem-solving, involving the necessity of dealing with people or other relatively unpredictable or obstinate things--animals, for example, or fairly complex machines--where a moderate degree of empathy, insight, or ingenuity is needed to effect small to moderate changes in outcome. Routine selling and auto repairing would fit here.

6 Complex problem-solving, requiring a substantial but not an exceptional degree of insight, originality, or thought. This may involve many variables,

6	but the relationships among the variables will not be extremely complex.
7	The setting up of a complex system of analysis and/or synthesis in which little is fixed beforehand, many variables are involved, their relationships are complex, and outcomes are hard to predict.

ROUTINIZATION OF WORK

This index consists of two questions which measure the repetitiveness or variety of tasks performed and also the complexity of the basic job units.

Score

QUESTION: Does your work involve doing:

1	The same thing in the same way?
2	The same kind of thing in different ways?
3	Different kinds of things?
4	Other (specify) _____
0	Don't know.

QUESTION: When you begin your day's work,

1	You can predict exactly what kinds of things are going to happen on the job that day.
2	Can generally predict.
3	Can predict only moderately well.
4	Hard to predict.
5	Can't predict at all.
0	Don't know.

Score	
	QUESTION: What it takes to do a complete job varies a great deal from occupation to occupation. What do you have to do in order to feel that you've finished a piece of work?
4	End of the day.
4	No, never feel I'm finished.
1	Intrinsic unit. E.g. when customer is satisfied, when a particular job is completed.

Method of Coding

Twenty-four global strategy variables as outlined by Cook-Gumperz (1973, p. 74) formed the basis of the Justification of Discipline score. A score based on the answers received on the bad intent/heavy damage and the good intent/heavy damage variations of the Apples Story was calculated for each of the parents individually and together. Because parents usually suggested more than one strategy of control, their answers were broken into five categories: (1) Imperative only; (2) Imperative-Positional; and Imperative-Positional-Personal; (3) Positional-Personal; (4) Positional only; and (5) Personal only. This method of scoring allowed answers to range from a high of 20 to a low of 6. It also allowed parents who answered with an Imperative Control Strategy and a Personal Control Strategy to receive a lower score than a parent who responded with only an Imperative Control Strategy. Control strategy definitions and scoring procedures are described below:

I. Strategies for Imperative Control

Imperatives
Commands or abrupt imperatives. e.g. shut up, leave it alone, don't touch.

Indirect Punishment
Verbal threats. e.g. I'd tell her that if she didn't go to bed now she'd get a spanking.

II. Strategies for Positional Control

Limited Positional Appeals
Child is given information about a particular type of behavior in a particular situation. e.g. I'd tell him to behave.

Universal Positional Appeals
Rules of a highly general kind given to the child.
e.g. It's wrong to steal.

Status Positional Appeals
Rules which refer to a particular status in terms of age, sex, etc. e.g. I'd tell her girls behave like little ladies.

Parent Separation
Concerned with ways people discharge their responsibility to others. e.g. He'd have to go to the farmer and apologize.

III. Strategies of Personal Control

Parents' Expression of Involvement
Parent specifies type of concern experienced as a result of the problem toward self or others. e.g. anger, shame.

Emotional support provided by the parent toward self or others.

Parent Oriented Affective Appeals
Appeal is made to the child in terms of the feeling status of the parents with no explanation. e.g. Your father wouldn't like that.

Child Oriented Affective Appeals
An appeal is made to the child in terms of an explanation of the consequences of his misdemeanour as these relate to him.
e.g. You'll miss your friends if you don't go to school.

Consessions and Bargains
Parent uses positive rather than negative incentives.
e.g. persuasion, coaxing.

Specified Consessions
a rule for the child's sake. e.g. I'd say 5 more minutes, then to bed.

Bargaining
Parent specifies reward she will offer for compliance.

Child Reparation
Child initiates. e.g. She comes and says she's sorry if she's done it.

Child not to Blame
Accident. e.g. If she did it, it would be an accident.

Child not to Blame
Good intent. e.g. If she did it, she wouldn't mean it.

Avoidance

Child is prevented from seeing the problem as a problem and the parent is saved from punishing or threatening to punish.

a) routine non-action e.g. I'd leave her to get over it. I'd mop it up myself.
b) anticipating action
c) diversionary action
d) ritualized action

Parent Oriented Cognitive Appeal

e.g. Daddy can't help forgetting sometimes.

Child Oriented Cognitive Appeal

This is where the parent offers an objective explanation of the consequence. e.g. If you don't go to school, you won't learn how to read.

Parent Oriented Affective Cognitive Appeals

The appeal culminates in an affective appeal but gives the child some explanation why an emotion will or will not be felt. e.g. You've dirtied the table cloth so I'll have to wash it. That's why I'm angry.

Other Oriented Appeal (Affective, Cognitive, Cognitive-Affective)

Parent refers the consequences of the child's behavior to a non-parental figure. The parent explains how this person will feel or what the consequences of the child's misdemeanour will lead to. e.g. Taking flowers will make Mrs. Jones very sad.

Child Oriented Cognitive-Affective (and Cognitive-Complex) Appeals

e.g. How would you like it if somebody took something which belonged to you?

IMPERATIVE CONTROL STRATEGIES

Type of Strategy	Score
Imperative	20
Verbal punishment	19
Physical punishment	18
Indirect punishment	17

Situations which were answered with only Imperative Control Strategies were scored by averaging the score, if there was more than one answer, e.g. a parent who answered he would control the child using verbal and indirect punishment would receive a score of 18 $\left(\frac{19 + 17}{2}\right)$.

IMPERATIVE-POSITIONAL AND IMPERATIVE-POSITIONAL-PERSONAL CONTROL STRATEGIES

IMPERATIVE CONTROL		POSITIONAL CONTROL		PERSONAL CONTROL	
Type of Strategy	Score	Type of Strategy	Score	Type of Strategy	Score
Imperative	20	Limited positional appeal	1	Parent's expression	1
Verbal punishment	19	Universal appeal	1	Parent oriented affective appeal	2
Physical punishment	18	Status appeal	1	Child oriented affective appeal	2
Indirect punishment	17	Parent reparation	2	Concessions/ bargains	3
				Child not to blame	4
				Avoidance	5
				Routine non-action	5
				Cognitive and affective appeals	6

Situations which were answered with Imperative, Positional and Personal Strategies were scored by averaging the Imperative score and subtracting the highest Positional and Personal Control Strategies. E.g. a parent who answered with an indirect punishment, parent reparation and avoidance would receive a score of 10 [17 - (2 + 5)].

POSITIONAL-PERSONAL CONTROL STRATEGIES

POSITIONAL CONTROL		PERSONAL CONTROL	
Type of Strategy	Score	Type of Strategy	Score
Limited positional appeal	13	Parent's expression	1
Universal positional appeal	13	Parent oriented affective appeal	2
Status positional appeal	13	Child oriented affective appeal	2
Parent reparation	12	Concessions/bargains	3
		Child not to blame	4
		Avoidance	5
		Routine non-action	5
		Cognitive and affective appeals	6

Situations which were answered with Positional and Personal Strategies were scored by subtracting the Personal score from the Positional score. E.g. a parent who gave an answer of child reparation and emotional support would receive a score of 11 (12 - 1).

Type of Strategy	Score
Limited positional appeal	13
Universal positional appeal	13
Status positional appeal	13
Parent reparation	12

Situations which were answered with only Positional Control Strategies were scored by averaging the scores, if there was more than one answer. E.g. a parent who said he would use limited positional appeal and status appeal received a score of 13 $\left(\frac{13 + 13}{2}\right)$.

PERSONAL CONTROL STRATEGIES

Type of Strategy	Score
Parent's expression	11
Parent oriented affective appeal	10
Child oriented affective appeal	10
Concessions/bargains	9
Child not to blame	8
Avoidance	7
Routine non-action	7
Cognitive and affective appeals	6

Situations which were answered with only Personal Control Strategies were scored by averaging the scores, if there was more than one answer. E.g. a parent who answered with a parent oriented affective appeal and also said the child was not to blame would receive a score of $9\ (\frac{10 + 8}{2})$.

Coerciveness of Punishment

Scoring Method

The 17 types of punishment outlined by Jackson (1956) were placed on a continuum of coercion. Rank values extended from 1 to 17 with the milder methods receiving the lower scores. The 17 methods are outlined below:

Score	Coerciveness of Punishment Category
1	Acceptance Parent accepts child's behavior because it is moral, natural, without intent, etc. or because the parent is helpless in bringing about any change.
2	Insufficient Information Giving Responses in this category are abrupt and definite. The parent does not tell the child why his behavior is inappropriate.
3	Explanation The parent evaluates the child's behavior and discusses why it is wrong.
4	Natural Consequences Responses here imply that the child will suffer enough because of his actions and parental interference is not included.
5	Bribery Pleading, promising rewards, etc. An attempt is made to limit one type of behavior by the removal of the limits of another.
6	Scolding, Verbal Reproof The parent's anger is expressed in this category.
7	Assertion of Authority The parent requests, urges or orders and demands the child to do something. The familial status quo is made apparent.

Score	Coerciveness of Punishment Category
8	Threat The possibility of future discomfort is expressed if the child continues his course of action.
9	Compensation It is suggested that the child compensate for his behavior by doing something else.
10	Deprivation It may range from the removal of accustomed privileges or freedom or it may be a severe limitation of the child's environment.
11	Coercion to Repeat Behavior This type is suggested in situations where the behavior of the child, if continued would lead to the child's discomfort.
12	Punishment - not otherwise stated Type of punishment is not specified.
13	Forced Admission of Error of Guilt Attempts are made to force the child to verbally admit he is wrong or guilty.
14	Physical Punishment Any types of control which are physically painful to the child.
15	Retribution The same punishment is meted out to the child as the child has been responsible for inflicting on some other person or animal.
16	Creation of Shame or Embarrassment The parent attempts to embarrass the child.
17	Creation of Fear Controls are used which would make the child fearful. Creation of fear is explicitly stated as the aim of the parent.
	Avoidance The subject responds that his child is incapable, either psychologically or physically of committing such an act. When parent suggested only avoidance he was given a score of 5.

The seventeen methods were scaled in order of their degree of pressure each method would exert upon the child to conform to the parents' wishes.

To score the parents' answers the average score of the 12 story variations was used. Whenever two or more answers were supplied by a parent for the same situation, two numerical values for that story variation were obtained. The "low coercion" score was the mildest punishment suggested and the "high coercion" score was the most severe punishment suggested. A coerciveness of punishment score was derived by averaging these two scores.

Consistency of Policy Regulations and Enforcement

Scoring Method

The framework for the scoring of consistency of policy regulations and enforcement was the three categories developed by Baldwin, Kalhorn and Breese (1949). These are outlined below:

A. Schedule and other standards are precisely formulated and adhered to meticulously. Parent goes out of way to maintain clear, consistent policy regardless of special circumstances.
ALSO
Policies are sometimes adjusted to meet unusual circumstances, but on the whole they are clear-cut and consistent.

B. There is a core of reasonable consistency about parent's policy, which serves as a stable basis for adjustment despite numerous minor fluctuations and vagueness about details.
OR
Standards are usually formulated, but exceptions and modifications are frequent enough to keep child readjusting. Schedule often upset.

C. Regulations vaguely formulated. Enforcement uncertain and inconsistent. Child's basis for adjustment is slight, even in some major matters.
ALSO
Policies of parent in dealing with child are so erratic, unformulated, and inconsistent that child can never know what to expect. Schedule chaotic.

These three categories were operationalized by using the variations in the coerciveness of punishment answers to develop a measure of consistency or certainty for each of the parents.

The extent to which the parents' coerciveness of punishment answers varied on the bad intent/light damage and the bad intent/heavy damage variations of the candy and streets stories was used as the basis for scoring the consistency of the parents' answers. Scores varied from 1 to 23.

Parents who gave different answers to the two variations of the Candy Story and the two variations of the Streets Story received a higher

score than a parent who gave similar responses. The procedure used to score the answers was to find the difference between the coerciveness of punishment scores to each of the candy and streets stories and then to sum them.